THE VETERINARY JOURNAL
AND
Annals of Comparative Pathology.

NOVEMBER, 1876.

## EQUINE PARALYSIS IN BURMAH AND INDIA.

BY R. POYSER, M.R.C.V.S., THE CARABINEERS.

THE horses in the Royal Artillery at Thyet Myo, in British Burmah, have been attacked by a paralytic affection called "Kumree," a Hindustani word meaning "loins," or something affecting the region that seems to be chiefly involved. "Kumree" is ominously applied to a formidable description of equine Paralysis, which, when not fatal, often renders the sufferer unserviceable for a long period. In most cases it is paraplegia, seldom hemiplegia, and occasionally Paraplegia-hyperæsthesia—this last form being the worst, and generally intractable. Its synonyms of "Sunstroke," "Windstroke," and "Sandwind" confine attention to supposed causes; and veterinarians have hitherto appeared contented with these traditional etiological views, as well as with the empirical treatment of symptoms only. The removal of such causes is out of the question, and their complete avoidance impossible, because of their uncontrollableness. Climatic or atmospheric agency, and that relating to wind and sun, have been solely suspected as causes. Direct or indirect solar action has been less challenged than aerial influence, but in combination

they well deserve etiological consideration, though the *modus operandi* of either is inexplicable. It is, however, recorded that unhealthy conditions, and even death, of animal (and vegetable) organisms can be produced by exposure to the influence of certain winds, and altogether without the existence of constitutional pre-disposition. The paralytic and otherwise prejudicial effect of the solar rays upon the head and spine, and doubtless on the nerve peripheries, is fully recognised in the lower animals, as well as in man; and it is a common practice in Calcutta and other Eastern cities to protect the heads of horses that are compelled to work during the great heat of the day with thick and light pith shields, extending from below the eyes to the back of the occiput, apertures being left for the hearing and vision. The appearance is grotesque, but the device is humane. It is customary and indispensable, in the hot season in India, to cover the backs and loins of troop horses, which have no stable or tree shelter, with blankets folded into eight thicknesses, as a protective medium against the vertical rays of the sun. Of the value of this protection there can be no doubt; though the excessive perspiration induced under the manifolds of cloth may render the wearer uncomfortable. Elephants by instinct—perhaps reason—cover their own heads and backs with their grass forage, to lessen the effect of the sun. We have personally and repeatedly experienced severe cephalalgia, conjunctival hyperæmia, etc., from the influence of hot winds on our eyes and temples; and these are important organs to protect when such winds cannot be altogether avoided. Acting by their temperature, which necessarily modifies that of the circumambient air, as well as by their moisture or dryness, and by the emanations of different kinds which they transport to greater or less distances, winds exert considerable influence on the animal economy, chiefly through the skin and lungs, and primarily through nerve and capillary peripheries, separate or conjointly. Their secondary influence may or may not be pathogenetic, depending upon individual susceptibility, or that of particular organs. "In the Falkland Islands" (Fleming's "Veterinary Sanitary Science and Police," p. 46) "winds from the north-east are moist, foggy, and unwholesome, those from the

east and south most pernicious, blighting and tempestuous—affecting man, bird, beast, and vegetation. Nothing exposed to their influence can withstand them. Fowls are seized with cramp, and continue to decline until the whole side which was first attacked is decayed. Pigs are suddenly taken with staggers, turn round and drop, never to recover. People are oppressed by a checked perspiration," etc. Accordingly, the wind is shown to be panzoötic (and panphytic), evidently implicating the cerebro-spinal axis; and this being so in one locality, we may reasonably infer it could be similar in another, although modified and in a more sporadic or enzoötic form.

Of the morbid anatomy of "Kumree," we literally know no more than we do of its remote or proximate causes.

The spinal cord and its meninges are the parts in which grave lesions have been observed after variable periods of illness; but how far or in what manner they are physically affected immediately after the attack, we are never likely to know, though a thorough investigation made—if the patient were killed—at this time might bring to light conditions in parts where we do not expect to find them, and of which we have no idea.

The pathological physiology of "Kumree," in the main, consists of sudden loss of motor power in the loins and hind-extremities, so that the patient at once drops; or if down, is unable to rise; or if walking, goes staggering along, crossing his hind-legs and swaying his posterior quarters about till he falls. Premonitory symptoms are seldom noticed, yet doubtless they exist. Some cases are ephemeral, others very protracted, and rendered worse by continued lateral recumbency. Cases have done best supported in slings, provided temperament has allowed the animal to remain quiet in them. If not, a natural recumbent position should be maintained as much as possible, and precautions taken to guard prominent parts against sores, for they help to hasten dissolution. A precise account of the disease is not intended to be given; it is only with the causes that we have to deal, and to them we now return, and any diversion that may appear irrelevant must be pardoned.

There is no wish, and but little data, to uphold the wind theory lately discussed; yet to supplant it by another theory

entirely unsupported by facts will be a matter of no mean difficulty. We notice with respect the innovatory—the original—views propounded by Staff-Veterinary Surgeon F. F. Collins, in his report to the Indian Government relative to "Kumree" in Burmah.

He states that "From my experience of the disease, I cannot attribute its origin to the effects of the wind, but to those of diseased seeds upon which the animals are fed. I consider it to be a disease solely arising from dietetic influences." And after describing the effect of ergotized grain on the animal economy, the pathological conditions it induces in the spinal cord, and inferentially identifying them with the *post-mortem* appearances of "Kumree," which he cannot otherwise account for, he says: "If we may judge from analogy of the effects of ergot of rye upon the human subject, we may safely ascribe Paraplegia to the diseased seeds used as food for horses, and not to the effects of the wind, as is generally supposed. I have invariably found the disease occurring at the fall of the year, and when dry seed grass is used regularly for feeding purposes."

Extremes of temperature were the leading causes noted by the Burmah authorities to the acting P. V. S., who thinks Burmah not peculiar in that respect, there being many places equally so in India where the disease will not be found. He looks more for catarrhal affections under such conditions. From his remarks, the stables in Thyet Myo are cramped, confined, and entirely deficient in roof ventilation; and the floors, being permeable, are loaded with excrementitious matters, the effluvia from which must be re- and re-respired. Except to advise speedy rectification of these gross negligences, no observations concerning them are vouchsafed etiologically.

We have known "Kumree" to exist in a sporadic or enzoötic form, if five or six cases occurring simultaneously, among 700 or 800 horses of British cavalry and artillery, can be so designated, *towards* the close of the hot and rainy season, when more serious affections are looked for than at others; when vegetation is approaching maturity and is particularly rank and luxuriant; and when the enervating influences of a very high and moist temperature, long continued, have left their mark on the animal

economy to such an extent as to render its more susceptible organs exceedingly predisposed to receive morbid impressions.

In some years the disease is more prevalent than in others: and there must, of course, be some extraordinary reason why it should be so at the season noted. If it is owing to anything of a prejudicial nature in the "dry seed grass" we are not prepared to endorse that view, for this reason—that in those parts of India where we had the opportunity of meeting with "Kumree," the horses were never fed on that description of grass, but on the ordinary green grass of the country, freshly cut every day. Moreover, our impression has always been that it was less prevalent where the dry grass feeding is partly adopted. Again, it is not much seed that can be found in the dry natural grasses given to horses in Bengal, the North-west Provinces, and Punjaub; and the artificial grasses are not used at all. Mr. Collins, writing at a later date, and after acquiring more information on the subject, ascribes the numerous attacks of Paraplegia in the Native Cavalry to diseased gram (*Cicer arietinum*). Seven attacks and three deaths therefrom occurred in the 16th Bengal Cavalry, whilst not a single case was recorded in a battery of Artillery quartered in the same station—Bareilly. At his inspection he had much reason to find fault with the gram.

During the official year ending March 31st, 1875, Paraplegia had been rife amongst the horses of the Bengal Cavalry—twenty-six attacks and eight deaths—whereas in the British Service none were recorded. Throughout his inspections, he noticed in every instance that the Native Cavalry purchases its gram at the markets in a broken state, and upon close examination he found diseased, worm-eaten seeds to a large extent invariably mixed with it; but in the British Service the gram is purchased whole, and diseased seeds are more readily detected, so that the entire ration can be refused. He observed that much greater attention was paid to the quality of the food in the latter than in the former corps. We believe this is in a great measure owing to regular veterinary supervision; yet much credit attaches to other officers for their close observance of the troopers' forage in India. Native Cavalry have no veterinary surgeons, except in one or two cases; and its European officers might spend more time in

their stables, with advantage to the horses, than is the rule at the present time.

Professor Dick, in consultation with Mr. F. F. Collins, proved that eleven cases of Paralysis in the 16th Lancers, and others in the neighbourhood of Edinburgh, in the autumn of 1858, occurred from eating ergotized rye-grass seeds; and these cases are said to be identical with "Kumree." It has been just remarked that the disease was "rife" in the Native Cavalry; but we can only raise the proportion of attacks to something less than three per thousand, and that of the deaths to less than one. The percentage, therefore, is really very low.

Now, if "Kumree" were produced by ergotized seeds, whether of grasses or cereals, we should certainly expect to find a much higher percentage of attacks than we have either seen or heard of, considering that all the horses of a regiment or battery are fed alike; and, on the other hand, if the wind theory were correct, we might argue similarly. Worm-eaten gram, from which we have proved no ill effects, is not ergotized. Barley does not become worm-eaten; and this is the only grain upon which horses are fed in some parts. In other districts the ration consists of half gram and half barley, the proportion of the former being sometimes less.

In the Report referred to, Mr. Collins dwells upon the inferior quality of grasses grown upon "Ruck-lands," which are set apart, and not fed off by cattle. The grass from these places is permitted to grow and mature, but is not stacked—simply cut when required, and brought in for consumption. It is comparatively innutritious, dry, fibrous stuff containing few or no seeds, and is devoid of anything resembling the "bouquet" of hay, as we understand it. It is not much appreciated by horses, and is mixed with considerable quantities of "lemon grass," bearing a strong odour of lemon. Mr. Collins, and many of his predecessors, have frequently brought to the notice of Government the exhausted condition of such lands, and the poor character of the grass grown thereon. The remedy recommended has, up to the present time, been neglected—Government, probably, deeming it too expensive, and otherwise impracticable, to convey the stable litter and manure on to these lands to renovate and fertilize

them. Year after year are they robbed of their natural produce and never artificially assisted, so that they become more and more impoverished, affording a quality of grass that must be yearly deteriorating. Nevertheless, it is a matter of great surprise to find grass growing at all in places where it is eaten up daily or shorn as long as it appears on the surface, and then scraped up by the roots. The very droppings of the herds are not permitted to return any nutriment to the earth, for they are collected as soon as deposited, made into flat cakes, and dried for fuel and cooking purposes. The stable refuse is also used in the cold season by the natives for fuel, and horses are often deprived of their bedding for the same reason.

The vendors of milk purchase the troop-stable refuse, when grass is scarce, for feeding their cows and buffaloes upon, and spend a great deal of time in extracting the evacuated undigested grains. The public are not aware how the milk they consume is forced; but Government has issued orders by way of preventing the abominable practice—that is, so far as the troops are concerned. Still, we remember seeing a number of buffaloes that supplied us with milk, making very hearty meals of horse-dung freshly gathered from the lines. The Indian sheep, unless prevented, either by liberal feeding or careful tending, will eat human excrement, whether desiccated or recently deposited. Hunger, perhaps, may first suggest the depravity, but the habit is soon confirmed; and a sheep will trot about most energetically hunting for the morsels it so much relishes. This disgusting habit is more highly developed in the Indian pig, kite, and crow.

Whatever stable litter, etc., is not disposed of as above noted, is removed to fill some excavation or other, and far enough away from cantonments to be sanitarily safe. The manure pits are always placed too near the troop lines, and are a source of filthy emanations, during the hot and rainy months, whenever disturbed.

We have practically proved that one-fifth of a ration of barley, when given to horses improperly ground or imperfectly crushed, is passed in the fæces undigested: at least, that was the average afforded by 600 horses. Such was not the case with the gram ration.

Some of our observations may appear erratic and oddly inserted; but they all, more or less, bear on the subject. But, coming nearer to it, we will, in conclusion, hope that the views enunciated by Mr. F. F. Collins will, at any rate, lead to a new line of thought, and develop into facts that shall suggest not only a scientific treatment, but a sure preventive against "Kumree"; and now that publicity is given to his theory, we predict he will seize every opportunity to substantiate his original and decided asseverations.

---

## FRACTURE OF THE NECK OF THE FEMUR IN A HORSE.

BY M. E. NAYLOR, M.R.C.V.S., WAKEFIELD.

THE subject from which I obtained the injured bone shown in the annexed illustration (Fig. 15) was a large cart-horse, five years old off, which was found cast in his stall on the morning of the 15th of September, 1874.

He had bruised himself a good deal, and was lame on one hind-leg. The limb was fomented, the animal had aperient medicine administered, and was then placed in a loose box for a short time. When he appeared to be better, he was put to gentle farm work again.

On January 26th, 1875, he was blistered on the hip and stifle, and the blister was repeated on March 10th.

A consultation took place on April 21st with another veterinary surgeon, who lived in the neighbourhood. He gave it as his opinion that the animal was lame in the hock; and so certain was he that the horse was "putting out" a spavin, that he induced the proprietors to allow him to apply the actual cautery to the hocks, asserting that the animal would be perfectly sound after the operation.

When I first saw this horse, on the 15th July, 1875, I had a firm conviction, after an examination, that he was lame in the hip. I thought I felt *crepitus;* yet, from all the information I could gather of his behaviour since his accident, I scarcely suspected the existence of a fracture, but surmised that there

was probably a rupture or elongation of the round ligament. I deemed it my duty, therefore, to request the proprietor to inform Mr. Hoyland, V.S., that I perfectly agreed with him as to the seat of lameness; I advised further treatment to the hip, at the same time expressing my doubt as to the horse ever being in a fit state to work again.

I saw him once more on the 24th of August, when I met Mr. H. at the stable. The horse was then much worse: standing with his foot up, the hind-quarter wasted, the aspect of the limb

FIG. 14.

FIG. 15.

altered, and in progression the toe was turned inwards. When he put his foot to the ground to move forward, the trochanter was elevated, and he was intensely lame. The *crepitus* was now very distinct on pressure to the hip, and the femur could be moved towards the body.

The result of our consultation, as may be supposed, was an order to destroy the animal; and this order was carried into execution on the following day.

On removing the leg, the place of the neck of the femur was found to be filled with pus; the portion of the upper part of the

shaft of the bone had rubbed against the head of the portion which remained within the acetabulum, producing a smooth surface by the friction of the two portions of the bone coming in contact during progression. But I hope that the drawings sent will show the extraordinary effect of such long-continued hip lameness better than I can describe it, and that the real state of the case will be apparent.

Perhaps it may be thought that I should give a more detailed description of the case, and particularly with reference to the wasting of the injured femur. But with regard to the latter, I have procured a healthy bone to be compared with it (Fig. 14); and as the wasted state of the broken femur is very noticeable on comparison, it will be better understood than by words. I procured the sound bone from an animal of the same breed, and as nearly as possible of the same size.

There was much in this interesting case that I could have wished to have examined and described more perfectly; but as the horse was twelve miles or more distant from my house, and the knacker to whom he was consigned was twenty miles off, I trust these circumstances may excuse the imperfections of my report.

I know also that in order to make the specimen complete, I ought to have had the pelvis with the acetabulum attached, and the opposite femur. I have not done all I wished; nevertheless I forward the report such as it is, to fill a vacant corner of your very valuable journal.

[Mr. Naylor has generously presented this interesting morbid specimen to the museum of the Royal College of Veterinary Surgeons, where it may be examined by the profession. The fracture, as is shown in the drawing, is through the neck of the femur, the head of which was firmly retained in the cotyloid cavity by the *ligamentum teres* and the capsular ligament, which, Mr. Naylor informs us, was intact. The disunited head is attached to the upper part of the body of the femur—for the neck has almost entirely disappeared through friction and absorption—by a pin.—ED. *V. J.*]

# CONTRIBUTION TO VETERINARY TOXICOLOGY: POISONING IN A HORSE FROM THE TOPICAL ABSORPTION OF *NICOTIANA TABACUM.*

BY JOHN HOWARD, M.R.C.V.S., WOOLWICH.

THAT accidents frequently occur from the unskilful and indiscriminate use of tobacco by coachmen, grooms, and others, I feel fully satisfied; this being a favourite remedy with them for Prurigo, Surfeit, Mange, and the expulsion of the various entozoa which infest the alimentary organs of the horse. Some think nothing of cramming down the unfortunate animal's throat from two to three ounces of strong cavendish tobacco before leaving him for the night, expecting to have the gratification of seeing the floor strewn with worms the following morning. The horse, already much exhausted, perhaps, with a hard day's labour, and probably suffering from some chronic or insidious disease, which his driver has a misty idea is caused by worms, is left to suffer and die in solitude, unaided and unseen.

The professional reader will agree with me in saying that a horse found dead in the morning will often take the place of the anticipated evacuation of worms, and that this death is always ascribed by the guilty party to an attack of "Gripes," or a sudden inflammation from cold. The clandestine administration of poisonous substances by this class of persons is rendered more secure from the fact that many of them are quite adepts in the art of giving solid materials by the mouth, and can do it without any assistance from a second party, by simply seizing the tongue with the left hand, drawing it well to one side between the first molars, so that on the insertion of the right, containing the fatal dose, the animal cannot close his jaws without biting his tongue, which he is generally careful enough to avoid. This feat is quite easy of accomplishment, particularly in draught animals, whose mouths are large and roomy. There being no witness to the giving of the dose, enables the culprit to stoutly deny his guilt, should any inquiry be made. The following case will afford a good illustration of the great danger of using tobacco by non-professional persons.

On the 7th of May last, about three p.m., one of the employés of a coal merchant came in great haste demanding my services immediately. The animal was a fine-looking middle-aged cart-horse, in very good condition. The driver stated that he left him to all appearance quite well at 10.30 a.m., having just previously (with the consent of the proprietor) well rubbed into his skin with a brush a strong decoction of tobacco, for the purpose of allaying irritability, he having shown symptoms of itchiness (Prurigo) for several days before.

*Symptoms.*—Violent tremblings, particularly at the posterior part of the shoulders, as well as at the flanks, and both fore- and hind-extremities; the pupils of the eyes widely dilated; a generally relaxed flabby feeling of the whole of the superficial muscles. There was also violent dyspnœa, the respirations being quick and short; pulse thirty-two per minute, extremely feeble, intermittent, fluttering, and indistinct. When made to walk he appeared to have partly lost the use of his hind-limbs; the posterior quarters rolling from side to side in an unsteady manner, the legs crossing each other, knuckling over, and appearing to be seriously threatened with paralysis. The anus was very prominent, the bowels extremely irritable, and tenesmus was present. He passed much flatus, and at intervals of three or four minutes small quantities of fæces in balls, partly in the liquid state, and coated with slimy mucus. There was a staring, stupid, giddy, intoxicated appearance about the head and eyes, —the visible mucous membrane being of a dark-red colour. A great tendency to collapse by syncope was evident. I administered powerful diffusible stimulants, with douches of cold water to the head; kept him in the open air, compelling plenty of smart exercise, the animal's attention being continually aroused and his movements accelerated by the constant cracking of a cart-whip. This treatment was steadily pursued for an hour, when the above symptoms had so subsided that I considered the case out of danger. He rapidly recovered, and partook of food in the evening. The following morning a dose of physic was administered, and since that time he has done well and performed work satisfactorily.

*Remarks.*—The proprietor's son seemed very sceptical as to

the tobacco being the cause of the illness; and said, in speaking to me on the subject, "*Why, we have given to this one internally* (pointing to another horse) *as much as two ounces at a time without any bad effect!*" Here is an instance, as I have before mentioned, of the injudicious use of this drug, which appears to be given, not only surreptitiously by drivers, but in some instances by the wish of the owners themselves. When we reflect that the dose for a horse, given medicinally, is from one to two drachms, it is not surprising that they are often found dead in their stalls in the morning, after being dosed to the before-mentioned extent the night previously with this treacherous agent, —particularly in cases of old and debilitated animals. The uninitiated look upon the skin of a horse much in the same light as they regard a piece of waterproof oilcloth, or any other coarse impervious substance. Possessing no scientific knowledge as to its real structure and relation to the parts beneath, they cannot reconcile in their mind the two facts, that tobacco or any similar substance, which has been taken internally with impunity, could possibly have any effect when applied to the skin. Without doubt, the horse being a herbivorous animal, exhibits great tolerance of tobacco; but the whole of this immunity is not to be ascribed to the fact of his being by nature a vegetable feeder. As great a reason for this tolerance is to be found in the peculiar structure of his stomach, and from the circumstance of the nauseous properties of this poisonous solanum being considerably mitigated through free admixture with the vegetable ingesta and other secretions, before it reaches the true and sensible digestive end of the viscus. We see in the above case a good example of blood-poisoning by the direct introduction of tobacco juice into the superficial capillary lymphatics, bloodvessels of the skin, and subjacent tissues, which to a great extent goes to prove that the equine tribe can withstand the effects of greater quantities of vegetable poisons introduced into the stomach, than when absorbed directly by the system from the peripheries of the body. I feel no doubt whatever in saying that the foregoing case would have proved fatal had the dressing been applied late in the evening, and the horse left for the night (without medical assistance), as is usually the case with those

employed continuously during the day. Tobacco has proved itself a very dangerous remedy in the hands of the medical faculty, often causing speedy death instead of the desired effect, and has long been discarded from the list of valuable medicaments by most experienced practitioners. The same may be said of our own profession; few veterinary surgeons employing it except on very rare occasions, and never as a vermifuge—as we possess drugs of much greater efficacy, which are free from risk and more certain in their action. It is astonishing how intelligent persons, in a good position, will, from motives of pecuniosity (to save a veterinary fee), risk the lives of their valuable horses; knowing that the loss incurred by the death of one would probably, even in an ordinary instance, amount to double the sum requisite to pay all the necessary fees of a veterinary surgeon for the following twenty or thirty years, and in some instances for a lifetime.

I cannot find any case of this kind on record, so far as the horse is concerned; neither do our professional works warn us to expect such an occurrence in him from a topical application of tobacco; therefore I consider this paper an original contribution to the toxicology of the subject,

---

## CONTAGIOUS FOOT-ROT IN SHEEP.

BY W. H. JONES, M.R.C.V.S., SITTINGBOURNE.

THIS disease, which is now causing farmers and graziers so much trouble and anxiety, and about which there exists a diversity of opinion as to whether it is contagious or not, must deserve notice for these reasons; so that the account of an outbreak which proves the transmissibility of the disease may therefore be interesting. In the September number of the *Veterinary Journal*, Professor Law has published a most interesting and instructive paper on this subject, in which he proves in a most decided manner that the disease is contagious. As it is now more prevalent than usual in some parts of the country, I think I cannot do better than quote the case of a flock which has recently come under my notice as suffering from this disease. About two months ago,

a gentleman residing in this neighbourhood requested me to examine a flock of sheep, consisting of old ewes, breeding ewes, and lambs. On examination, I found a large number were excessively lame,—in fact, some were compelled to go on their knees to graze. The feet exhibited the usual appearance of the disease—viz., the existence of pustules between the digits, and a viscid cheesy-looking discharge, which emitted a very fœtid odour. The skin about the coronet and between the claws was intensely red ; the feet were hot and painful, and in some cases a complete separation had taken place between the horn and the vascular structure beneath it. The animals suffered most acutely, and were quite unable to place the foot on the ground.

The history of the outbreak will furnish additional testimony to the theory of contagion. The owner informs me that "Foot-rot" never existed on his farm previous to last autumn ; when, unfortunately for him, he purchased some sheep at a sale in the neighbourhood, and these in a few days were observed to be lame. But no particular notice was taken of them, the shepherd thinking that the lameness arose from some mechanical irritation. Shortly after this, some of the original flock showed symptoms of lameness, and the owner then had them examined by his man ; when it was discovered that they were suffering from this troublesome disease. Remedies were then tried, and continued to be applied all the winter and following spring with varied success, the chief agent used being sulphate of copper.

Shortly after the lambing season had commenced, the lambs, from six to ten days old, began to show symptoms of the disease. This state of things continued, and by degrees became worse, up to the time when I saw the flock. Some authorities assert that the disease is produced by travelling sheep long journeys by road, by their being kept on a wet or damp pasture, by overgrowth of horn, and also by the soil. Now, as this flock was not subjected to any of these influences, the inference to be drawn is that the only and sole cause was *contagion.* It may be added that the surface of the soil is loamy and dry, the subsoil consisting of chalk.

The preventive and suppressive measures adopted were : a careful examination of the entire flock, and a separation of the

healthy from the diseased. The curative means resorted to were: complete removal of all the diseased horn, which was done with a small sharp drawing knife; the feet thoroughly cleaned, and dressed almost daily with nitric acid and tar, which was used alternately with a strong solution of carbolic acid. The result of this treatment has proved most satisfactory, there being but few remaining which are affected.

I may as well note that there was nothing of Foot-and-mouth disease in this outbreak, nor the faintest indication of that malady. The course of Foot-rot in the flock, and the symptoms presented by the diseased sheep, precluded the notion that the affection was in any way related to that disorder.

---

## REMARKABLE PRECOCITY IN THE BOVINE TRIBE.

BY LANCELOT T. BARKER, M.R.C.V.S., SKELTON-IN-CLEVELAND.

ON Sunday afternoon, the 14th of last May, I was requested by the bailiff of Greenshills Farm, to go and assist or deliver a young cow of her calf, this cow being the property of J. T. Wharton, Esq.

On arrival, I found the smallest animal, to be a mother, that ever I witnessed or heard of. This creature, a black polled Scot, nine days short of one year old, had made perfect preparation for parturition, and there was one fore-foot of the fœtus projecting about two inches from the vulva.

On inquiry, the bailiff told me that she had been accidentally "bulled" when she was ten weeks and five days old, while sucking her mother; the bull of the same breed going with the herd of cows, the calves of which were all allowed to suck their mothers so long as they chose.

The above statement to many may seem incredible, as it did to a neighbouring eye-witness, who was asked to give a little assistance in pulling the calf away; for although he saw the calf's foot projecting, he remarked that he could hardly believe his own eyes, and asked me if I did not think that the bull (the father of the mother) had got two calves at once, one within the other—as the mother was only a calf herself.

On examining her, I found the other fore-foot and head back in the uterus, and the calf dead. I therefore corded the projecting foot and thrust it back, and, with difficulty, corded the other foot and brought it forward as far as I could; then I returned both feet and corded the lower jaw. After manipulating a short time, I succeeded in getting both fore-legs and head straight, when I met with a great obstacle—viz., the pelvic orifice being by far too small to admit the legs and head together, one leg filling the vaginal canal almost completely. I at once allowed the head and one leg to fall back, and introduced an embryotomy knife, with which I skinned the leg, and divided it from the trunk, along with the scapula. I then brought the next one, and divided it in the same way, except having to leave the scapula, owing to so little room to work in; and the calf having only died about an hour before, the muscles, etc., were very strong and difficult to sever without using very great traction. After the above reduction, I again corded the lower jaw, which had slipped, and essayed to bring the head forward; but this I found could only be done as far as the eyebrows, the entrance into the bony canal of the mother's pelvis refusing admission to the bulky parts of the fœtus's head. But after manipulating the head, and using gentle traction, I succeeded in getting the whole of it into the passage, and ordered the men to pull simultaneously with her throes. The pelvic brim and inferior surface of the vertebræ here again refused egress to the sternum and anterior dorsal vertebræ of the calf; and very strong but steady force was employed to move the fœtus, but this failed. I therefore made an incision through the skin in the calf's throat, and subdermically cut a hand-way into the thoracic cavity, which I emptied of its contents. We then continued traction during her throes, and, as with the head, the most bulky part of the body passed over the brim of the pelvis with a sudden jerk, and entered the vagina.

It again stuck obstinately at the pelvis, but was overcome by the above perseverance—the calf and placental membranes coming away *in toto*. It was a well-nourished and full-grown calf; and had not nature (*ne plus ultra*) endowed the mother's pelvis with great flexibility and elasticity of its ligaments,

nothing short of the Cæsarean operation would have succeeded in delivering it.

*Treatment.*—During the operation stimulants were administered, and frequent drinks of water offered. Afterwards, aperients and sedatives were given, according to indications, with fomentations to the vulva. For three days she had relapses; but on the fourth day convalescence was apparent, when I discharged her. She was turned out to graze daily afterwards, and continued to do well.

P.S.—I was not very much surprised at the incident, as last year I delivered some of the same herd in a similar way, and these exactly one year old on the day they calved. I may add that about a teacupful of "beastings" were in the udder of each cow when parturition occurred, but no more was secreted in any of these precocious creatures.

---

## WHAT IS "BURSATTEE"?

BY "MAX."

A PERUSAL of the literature of this disease seems to me to throw very little light on its nature. The few remarks which we find in print on the subject are extremely meagre, and convey no adequate idea as to its pathology; nor do they indicate any rational mode of treatment.

Generally speaking, every horseman in India possesses the secret of its immediate cure. Each individual tells you in confidence that *his* is the only real remedy; and should the veterinary surgeon question the virtue of any of the specifics, he is looked upon as one behind the age—as being prejudiced, and in some cases intentionally opposed to the views entertained by non-professional men.

Doubtless, we have all found some individual with his own special "hobby" as regards equine disease, and have noticed how persistently he will "ride" that "hobby," without any regard to the opinions of the most experienced professional men. Such people are to be met with in India, as well as in every other part of the civilized world.

In addition to his duty to endeavour to alleviate the suffering of dumb creatures, the veterinary surgeon has another and an equally difficult task to perform in overcoming the prejudices of those by whom he is engaged: for who is the horseman that has not his own special nostrum for every complaint to which the horse is heir?

The "Veterinary Aide Memoire," by the late General Ryves, 8th Bengal Cavalry, seems to be the standard authority on this disease. Quoting from this work, we find it stated that "Bursattee, as its name denotes, is a disease formerly supposed to have been peculiar and almost confined to the rainy season; and is the most troublesome and vexatious ailing that horses in India are liable to: it, however, frequently breaks out in the hot weather, becoming worse during the rains, and continuing unmanageable until the cold season sets in.

"Bursattee sores show themselves generally on the penis, the fetlock joints and pasterns, and at the corners of the mouth; but this is owing to these parts being difficult to keep clean or liable to abrasion. Where there is constitutional predisposition to the disease, any accidental rub or wound may turn, during the hot weather and rains, to Bursattee."

I do not think that it can be accepted as a fact by any veterinary surgeon of Indian experience, that the angles of a horse's mouth, or his penis, are more exposed to dirt than other parts of the body. But that the fetlocks and pasterns are so, I admit; and this is the case more particularly during the rains. Cases of "Bursattee" occur frequently independent of dirt; so that I am inclined to think this cause has little to do in the production of the disease.

With regard to the penis, I may remark that it is the custom, in many batteries and regiments of European cavalry, to wash the sheaths and penes of the horses regularly; so that I cannot bring myself to accept this theory of dirt being the chief cause.

As to the disease having any connection with constitutional predisposition, I may state that I have never met any one who could prove the fact, nor adduce one single instance to show the correctness of his belief,—for it is really nothing more than belief.

In order that the theory of constitutional predisposition should carry some weight with it, we must first ascertain beyond doubt that constitutional taint influences the disease.

This has not been proved; and such being the case, we may dismiss the theory from our minds.

We are told that the disease is less frequent nowadays than it was formerly. It is an acknowledged fact that we have a greater average rainfall yearly now than was the case half a century ago; yet here is a disease peculiar to the rains, and yet is less common at the present day. Surely, if the disease is due to constitutional predisposition, the above fact ought not to affect it one way or the other?

The peculiarity of a "Bursattee" sore, we are told, is that it is "generally circular, raised, and dark-coloured in appearance; or a deep chancre, with hard bare edges, and an ichorous discharge, resisting the ordinary healing, dressing, and treatment."

Like so many other supposed specific diseases, the pharmacopœia has been searched over and over again with a view to discover some drug possessing peculiar properties, to act as a panacea; but with indifferent results. Calomel has been given till salivation was produced, by those who look upon the "sore" as a chancre nitric acid and chloride of zinc, the actual cautery and the free use of the knife, have all had—and have up to this day—their advocates. The most cruel methods have been resorted to by amateurs, who look upon any milder course as utterly useless. The writer recollects a case that bears out these remarks. On first arriving in India I was requested to treat a case of "Bursattee." On one occasion, when superintending the application of the dressing, an officer who fancied he possessed *the* cure for the disease, seemed astonished at such mild remedies as carbolic acid diluted to the extent of one part of acid to twenty parts of water, and the ordinary sulphate of zinc lotion. His "cure" consisted of equal parts of nitric acid (strong) and oil of turpentine!

Another authority tells us that "Bursattee is entirely a blood disease (caused by an over-abundance of acid in that fluid), and analogous to Syphilis in the human subject."

Although this is told us by a veterinary surgeon, we are not

informed by what means he arrived at this conclusion. Nor are we told what acids are found in over-abundance in the blood.

It must not be supposed that my object is to demolish such a theory. Such is not the case; but before accepting it as correct, I should prefer to learn by what means the fact was ascertained, or if it is mere supposition. If the statement is only hazarded, then I maintain that it should possess no weight in the consideration of the disease.

If the malady is analogous to Syphilis in the human subject, why is it not contagious? Why do we not find a hardening of the glands or lymphatics of any part of the body? Where, I ask, are the hypertrophied glands of Syphilis? It has not been proved that, like Syphilis, we find an increase of the albumen and white corpuscles, and a diminution of the blood corpuscles.

A person who is designated "one of the most experienced practical judges of horses in India," says: "I can prove that Bursattee is hereditary; and consider that the disease—*i.e.*, real Bursattee—is nothing more nor less than the same as Scrofula in the human subject."

Should these remarks meet the eye of "one of the most experienced practical judges of horses in India," I trust he will inform us why he has arrived at the above conclusion. It would be very satisfactory to know how far his experiments extended in solving the hereditary nature of the disease, as opinions differ very much in this respect. Nor are we enlightened on the point relating to the scrofulous nature of the disease. I presume we must only take such statements for what they are worth.

In the *Veterinarian* for 1875, we find an opinion hazarded that this disease is due to the presence of a parasite. The writer makes no effort to force his opinion on the reader, but states that his belief is that his view of the disease would be confirmed by microscopical research.

Whether this view of the disease has been confirmed, I cannot assert. I presume it would have been made public if found correct.

Let us now ascertain the opinion of Mr. Hurford, late Principal Veterinary Surgeon, Bengal Army. The views of such a close

observer, and an officer of so much experience, must carry a great amount of weight with them.

Mr. Hurford says: "The disease termed Bursattee is, according to my experience, a foul indolent sore, affecting various parts of the body during the rainy season, and aggravated by friction and want of cleanliness. The fibres of the body are in a relaxed and unhealthy state, from the condition of the atmosphere; it is difficult to get the most trivial wound to heal rapidly at this time. A graze—even a quarter of an inch cut of a clean lancet—either of these may in a few days become a foul ulcer. I do not believe in there being anything specific in the disease, more than its being a morbid state of the skin produced by the moist atmosphere. An animal having been so affected one year, and said to be more liable in consequence, is simply, in obedience to a law of nature which determines new-formed parts, more susceptible of attack."

From this we are to infer that the disease is nothing more nor less than an ordinary wound aggravated by climatic influences; and that this is the most rational and correct view of the disease, I am fully convinced.

It would be a subject for congratulation if Army Veterinary Surgeons in India would become more liberal, and give the profession the benefit of their experience. There are a host of subjects about which we know very little, and about which we might learn much if those gentlemen who have had years of experience would only communicate their opinions. In proof of my remarks I may refer to the disease termed "Loodiana Fever," and the small amount of knowledge which we possess about the malady. I trust, too, that the pages of the *Veterinary Journal* will be occupied by abler pens than mine in discussing the disease which I am now considering.

One circumstance in connection with this disease I am anxious to bring to the notice of the readers of the *Veterinary Journal*, and especially its Indian readers. Admitting that "Bursattee" is nothing more than an ordinary wound aggravated by a moist climate or atmosphere, and a relaxed condition of the tissues, I would like to point out another circumstance which I feel convinced retards the healing process of these wounds. Every one

who has served in India knows what a pest flies are to horses during the hot weather—how they swarm around every scratch and abrasion, till a poor beast is almost driven mad. Bearing this fact in mind, and recollecting where these same flies may have been, perhaps only a few minutes previously, does it seem wonderful that they should poison these wounds? Native latrines abound in every bazaar; some kind of decomposing matter may be found in the neighbourhood, brought thither by kites; and both in the latrines and on this decomposing matter flies collect in myriads. Then suppose a wound is left exposed, as is often the case, does it seem improbable that these flies convey, through the medium of their wings and legs, fœcal and decomposing matter sufficient to poison the wound? My individual belief is that they do. I trust others will express their opinion on this point.

In the treatment of these cases, as in the treatment of all wounds, my first care is to guard the part against the ravages of the flies; and I have fully satisfied myself that all treatment is comparatively futile where this precaution is ignored. The result of my experience is that no so-called "Bursattee" sore will resist treatment, if you preserve it from the flies. There is little difficulty in guarding against these, if one only covers the part with thin muslin or gauze. In those cases where I have noticed the healing process tardy, the application of a mild ointment of cantharides around the edges of the wound, for a depth of about one quarter or half an inch, has always had a most beneficial effect. And, besides hastening the healing process, you gain another important object—namely, the removal by absorption of any effusion which may have taken place into the surrounding subcutaneous areolar tissue.

I am inclined to think that many of the "secondary" attacks on the same part of the body are due to the fact that amateurs, as a rule, rest contented with having succeeded in healing the wound, and forget that what may be termed degenerate tissue still remains beneath the skin, rendering the part more susceptible to another attack. Had an effort been made to remove this hardening, many chronic cases, which we meet with so frequently, would never have occurred.

As the most advisable mode of treatment to be adopted, I think little more is required than would be necessary for a common wound. If only for the sake of humanity, we ought to raise our voices against the "heroic" method which so many ignorant amateurs pursue. Anything more revolting than to witness the free use of strong nitric acid to the raw surface of a poor beast's body, I cannot imagine. Yet this mode of treatment is pursued every day by the owners of horses in India. I should be the last to discuss this subject, and apply to it the term "inhuman," did I not feel convinced that a milder course would be attended with better results.

In conclusion, I trust that this subject will be taken up, and that those veterinary surgeons who have studied this vexed subject will communicate their ideas for the general good of the profession. If the few opinions which I have presumed upon offering are found to be incorrect by those more capable of forming an accurate conclusion, they will not only render a service to the profession generally, but will confer an obligation on the writer by discussing the subject.*

---

## TWISTED UTERUS IN A HEIFER.

BY CAPTAIN RUSSEL, M.R.C.V.S., GRANTHAM.

ON the 16th of last June, I was sent for by Mr. H—— to see a heifer, which he described as "straining a good deal, and had been so doing during the past sixteen hours, as if attempting to calve; but nothing was visible, nor was her time up for another month or six weeks." On my arrival, I found the animal lying down, and evidently in great pain; straining violently; eyes sunken and staring; pulse very frequent and feeble—almost fluttering; and other symptoms denoting great exhaustion and possibly speedy dissolution. I proceeded to make an examination *per vaginam*, and in the usual manner, thinking it might be a case of malpresentation of the fœtus; but on inserting my hand for about six inches, I found it impossible to advance, for

* See sub-editorial article on "Bursattee."

the parts were as if coiled from left to right, and apparently much congested—feeling corded, hot, and swollen. On making a further examination, I came to the conclusion that I was dealing with a twisted uterus. After repeatedly turning the heifer from right to left with no result, and finding her symptoms so urgent,—being likely to make good beef, I recommended that she should be immediately destroyed. This having been done, on opening the abdomen I found the whole body of the uterus turned over from left to right, and from above downwards, the immediate twist being much congested and strangulated; while the pelvic cavity between the walls of the vagina and rectum, and between the vagina and the floor of the pelvis, was full of effused serum of a jelly-like consistence—the result of long-continued straining. The calf within the uterus was well developed, and had apparently been dead some hours, decomposition having commenced. How or when the uterus became twisted I am unable to say; as the heifer had been turned out with several others, and had not been noticed amiss until the previous day, when she was observed lying down and getting up, and standing with her back up and tail outstretched, and continually straining.

Thinking this an unusual case, I have much pleasure in sending it you for insertion in the *Veterinary Journal*, should you deem it of sufficient interest.

---

## THE DEVELOPMENT OF THE OVARY IN THE MARE.

BY AN AMERICAN STUDENT AT THE ROYAL VETERINARY SCHOOL, BERLIN.

(*Continued from page* 280.)

WITH advancing age the brown cells increase in size: those of the second subject were 0·017 to 0·025 millimetre in size, with a nucleus approximately measuring 0·008 millimetre. In contradistinction to the increasing size of the cells, the intercellular substance decreases in amount with age; so that the cells are often in intimate relation with one another. The intercellular substance is markedly striated, the number of vessels seems to

increase, and the *adventitia* is also increased in quantity.* The *adventitia* is principally made up of spindle-shaped cells, provided with a nucleus of the same, or of an oval form. These cells tend towards the vicinity of the vessels between the "parenchym cells"; so that between them the afore-mentioned striated tissue mass exists. In these so enclosed parenchymatous islands, the larger cells press closer to each other, retaining their size, while the connective tissue *adventitia* also increases. On the limits between both these, the parenchyma cells are observed to be gradually disappearing—probably owing to the development of the interstitial connective tissue. The body of the cells forms large granules or globules; it is more transparent and paler, while the nucleus becomes darker. The dimensions of the parenchyma cells decrease; so that, in this part, only small isolated pigment cells are to be seen, and with isolated nuclei. Finally, nothing remains but small parenchyma cells, or *débris* of the same, and especially pigment molecules. With the rapid development and increase of the vessels, and constant growth of the germinal plate, the parenchyma cells also disappear in a progressive manner; they always lie more isolated and scattered, and form—for instance, in the ovarium of the one-year-old foal—generally a loosely connected mass of cells, which in process of dissolution are granulous and very pale, being merely at last fat granules. The stroma, which these cells go to make up, impinges on the germinal plate, as well as on the serosa which sheathes the sides of the ovarium. Upon the limits of the stroma and germinal plate, in the examples referred to, differences were perceived which probably owed their origin to the great increase of the germinal plate, and corresponding wasting of the stroma. While, for instance, in the fœtal ovarium the limits corresponding to the extent of the germinal plate appeared roundish, and only at wide intervals the connective tissue septa from the germ-plate penetrated the stroma, and allowed the insignificant indentations to be recognized; in the ovarium of the foal, forty-seven hours after birth, it was observed that the indentations had become deeper, and formed somewhat regular arches. These

* The shrinking of the substance probably allows more vessels to be seen, but there hardly seems cause for an increase in number.—*Translator.*

last could be distinguished from the tissue of the germ-plate by means of their brown contour. In the case of the ovarium of the thirty-three-days'-old foal, the arches were increased in number, through the addition of new connective tissue septa from the under-part of the texture of the germ-plate; at the same time they become smaller, and some which were curved have already become flattened and uneven from projecting cells of the germinal plate. The ovarium of the fifty-one-days'-old foal also shows an increase in the connective tissue septa; though in different places the connective tissue and vessels have so increased in quantity that only single, variable-sized fragments of the tissue of the original stroma remain.

The ovarium of a foal about a year old offers thin striations and rows of the cells, which make up the tissue of the stroma, and which, in developed ovaries, have entirely disappeared. The germ-plate is on its surface covered with germ-epithelium. This epithelium is somewhat cylindrical, its shape altering considerably in preparations of chromic acid and alcohol. These cells measure in length 0·018 millimetre, and in width 0·007 to 1·008 millimetre. Their protoplasm is finely granulated, and shows no membrane; in each there is always to be seen a good-sized nucleus of oval form, approximately 0·007 millimetre, and which has generally the same thickness as on the cell itself. Not unfrequently there are observed strongly refracting nucleoli in the nuclei, measuring 0·001 millimetre. Generally the cells have pointed extremities, and appear conical; often there are egg-shaped cells, and these stand like a palisade against each other, following exactly the course of the germ-plate, upon which they stand with their pointed end inserted into the tissue of the plate. This epithelium is simple. With the decrease of the surface of the germ-plate, the epithelium also diminishes; so that none is to be found on the completely developed ovarium. If we follow the development of the germ-plate through the series of subjects, we obtain the following results: The germ-plate of the ten-months'-old fœtus appears uneven, and is studded with epithelium; between low papillæ-like projections there are furrows of more or less extent, covered by cylinder epithelium, the processes of which penetrate the tissue to the depth of 0·1 to

0·2 millimetre, thus giving them the appearance of winding hither and thither, or dividing, so that the entire length of furrow is difficult to follow in a microscopical preparation. The furrows are of a thickness varying from 0·01 to 0·04 millimetre, and are often dilated in their course. Especially where these furrows divide they are most distinctly marked; in the superior parts their course is more direct, and at the inferior more winding; they have no apparent *membrana propria*, and are distended with cells which are very closely packed together, and which are readily coloured by carmine-tincture; in shape, these cells are irregular. Occasionally the cells are regularly arranged, as in the *tubuli uriniferi* of the kidneys: this arrangement can also be seen in a longitudinal section of the ovarium; the nuclei of these cells are roundish or oblong, and have a diameter of about 0·001 millimetre. In the deepest layers of the ovarial substance, and exceptionally in the superficial, these furrows assume an ampullæ-like form, and the cells lining them are much longer—from 0·007 to 0·014 millimetre, while they are roundish, and have sharp contours; the nuclei also are larger than in the previous specimens—they having a diameter of, say 0·003 millimetre. The ampullæ-like widening in which these cells lie, appears at first as a continuation of the furrow, and as if this ended there. From them are formed roundish bodies which, on account of the regular and radial arrangement of the epithelium, may be looked upon as follicles. The largest of these follicles are to be found in the vascular part of the germ-plate, surrounded by the connective tissue of the same, or enclosed by the superficial cells of the stroma, on the limits of the parenchyma cells. The manner in which the deepest situated follicles have passed over, in their course towards the stroma, is indicated generally by small fibres of connective tissue which surround them. Between these connective tissue septa, which generally run parallel to one another, are to be seen fragments of cells, with very small polymorphous granulated cells. Within the cavity enclosed by epithelium, is to be found the ovum, "Eizelle;" in this is the nucleus, rendered distinct by its darker contours, in which the nucleolus, or "germinal spot," is also to be seen.

The ova lie eccentric, and have an approximate diameter of

0·008 millimetre. Adjoining the germinal tissue of the ovary is also to be seen connective tissue making up the principal part of the germ-plate. The connective tissue is of an embryonal nature, and varies in form; its cells are either spindle-shaped or extended laterally, and terminate in a rounded projection. In the cells are granulated nuclei, which are readily stained by carmine; and in the nucleus is to be observed a strong refracting nucleolus. By their ends these cells attach themselves in the space between adjoining cells, and follow in their arrangement the contour of the ovary. In the direction of the germ-epithelium they are more loosely arranged; while those lying deeply in the region of the stroma are more densely packed. According to the situation and number of the furrows and follicles in the germ-plate, the course of the surrounding connective tissue is interrupted and irregular; and this arrangement gives a furrowed appearance to the germinal plate. The epithelial tissue in the germ-plate of the fœtal ovary exceeds in quantity the connective tissue. In the ovary of the forty-seven-hours'-old foal, evidence of the germinal epithelium on the surface of the germ-plate ceases, and, as a rule, one only sees shallow grooves. Traces of the epithelium of the germinal plate are often present. The superficial furrows, which frequently communicate one with another, and often divide, have no longer the wide excretory passage of the fœtal ovary; they have become thinner and smaller, while others have lost all relation to the surface, and are only connected with the germ-plate by means of a short layer of diagonally-placed spindle-shaped cells of connective tissue. The furrows in the deeper layers are metamorphosed into large masses of well-defined epithelium, easily to be distinguished from the germ-epithelium by their greater size.

Adjoining these, one observes variously separated follicles, which are always deeply imbedded in the brown stroma; these, however, show no difference worth naming from those of specimens 1 and 2. The connective tissue has become thicker, and appears about equal in quantity to the furrows in the germinal mass. In many cases the connective tissue and follicles exceed the furrows in amount. The largest cells in the furrows measure 0·016 millimetre, and their nuclei 0·005 millimetre. On the

limits, and also in the substance of the stroma, are to be seen many vessels having a winding course, and which are especially distinguished by their well-developed *adventitia;* these vessels extend to the outer surface of the germinal-plate.

The superficial surface of the ovarium of the thirty-three-days'-old filly appeared more even and smooth, and only occasionally were to be seen shallow indentations, which sometimes extended to furrows and follicles, and had a diagonal course to the connective tissue stratum of the ovary. The epithelial lining and contents of these furrows had no regular arrangement; many fragments of cells were apparent, forming a mixed mass in centrum; the cells yet retaining their form had a diameter of 0·007 millimetre. The follicles were mostly situated in the under half of the germinal plate, in a zone which extended from about the middle of it, in a downward direction. The ovules in these follicles measured about 0·013 millimetre, and the nucleus 0·006 millimetre. The follicles were mostly separated from one another by means of fibres of connective tissue, or more compact but segregated bundles of the same; they were to be found in groups of about twenty-five. The connective tissue had lost much of its embryonal character, and by means of staining it with carmine it was observed to extend towards the outer surface of the germ-plate and surround the follicles and furrows. By means of this the germinal plate had a latticed appearance. The cavities or furrows on the outer surface of the ovarium of the fifty-one-days'-old foal had almost entirely disappeared; hence the surface had a more or less smooth appearance; the few isolated furrows remaining had more closely approached the stroma, and had only the diameter of the cells of the same—0·007 millimetre. In this superior zone, situated 0·07 millimetre beneath the germinal epithelium, were to be seen a considerable number of isolated follicles. In the vicinity of the stroma were observed larger and more developed follicles in even greater numbers, on which three layers of epithelial cells could be noted. The ovules of these measured 0·014 millimetre, and the nucleus 0·007 millimetre. Beside these, in the specimens alluded to, were to be seen three complete Graafian follicles, 0·05 millimetre in size; two of these were situated on

the limits of the stroma, the deepest being between two prominent rows of stroma cells. The largest nucleus measured 0·01 millimetre, and the germinal spot was visible, as was also the *zona pellucida*, *membrana granulosa*, and *tunica fibrosa*. The fold-like unevenness of the surface of the germinal plate of the ovarium of the sixty-two-days'-old foal did not proceed from indentations of the epithelium, but was due to the withdrawal of the centrum of the germinal plate into the ovarial substance. In consequence of this no furrows were to be seen on the surface of the plate; but, instead, there was only connective tissue, which increased more and more in thickness and quantity. By means of a low magnifying power there were observed, running vertical to the course of the germ-plate, slightly elevated striations of apparently the same width, which extended towards the middle of the inferior face of the plate, and were curved on the sides, but in the middle they had a more direct course. These striations were composed of colourless connective tissue, which could only occasionally be followed into the deep layers of the stroma; they generally proceeded to the isolated and now more circular-shaped furrows. These latter were either seen in process of division, or they had already separated. Generally the follicles were met with as nests or groups, and were rendered more markedly distinct from each other than in the preceding case, by means of the fibres or striation of connective tissue. The follicles showed a difference in degree of development; hence also difference in size; they measured 0·02 to 0·57 millimetre in diameter. In the smallest were to be seen the ovum and nucleus; in the larger, besides these, was a granulous mass; and in the largest two or three layers of epithelium around the eccentrically imbedded ovum. The ovum measured 0·02 millimetre, and its nucleus 0·008 millimetre. A few of the follicles could be distinguished by their prominent position in the stroma of the ovary, and by their advanced development.

Upon the superior surface of the ovarium of the foal approaching a year old, the folds were still more marked. The follicles lay in the vicinity of the stroma, but seldom in its tissue. The ova were generally seen in the middle of the ovarium, in smaller and larger groups; or sometimes arranged more in rows, and

separated by means of intercellular connective tissue. They were seldom without some substance between them. The size of the follicle varied greatly. The ovum was difficult to measure, but it had an approximate diameter of 0·04 millimetre, the nucleus 0·008 millimetre. Larger or more developed follicles than in this instance were seldom met with.

In the few cases recorded they lay singly on or in the substance of the stroma. The cylindrical epithelium surrounding the ovum was distinctly seen, being darker in colour than the stroma of the ovarium; while the germinal spot, situated toward the periphery and in the contents of the ovum, was difficult to distinguish. The connective-tissue septa in the former example extended deeper into the stroma, but they were smaller, and in places had vanished. In the superior zone of the germinal plate, by the side of the thicker connective tissue, were to be seen a number of larger vessels, having a diameter of 0·04 millimetre which generally extended in the long direction of the ovarium; the *adventitia* of these vessels was feebly developed. In this ovarium was to be seen a membrane (which is described by Helen, *Anat.* vol. ii. p. 488), pale in colour, and having a diameter of 0·91 millimetre. The sides of this membrane had a velvet-like appearance and wavy arrangement; they were from 0·004 to 0·011 millimetre in thickness, and were composed of connective tissue. The sides themselves appeared shining and structureless. Frequently there were to be seen plicated formations of varying size and strength, which were irregularly distributed in the ovarial substance. For lack of material, I am not in a position to give any definite conclusions as to the import of these formations. The immense folds, which they so frequently constitute, would lead to the assumption that they are of follicular formation. When unfolded they would apparently exceed the ovarium in extent.

The relations of the serosa to these ovaries remains yet to be spoken of. A definite limit between the serosa and germinal plate could not be discovered. In the first two ovaries they looked as if both passed gradually into one another.

At the point of union an increase of thickness was perceptible. While in the different examples the germinal plate varied in

thickness, the serosa was always less so. Apart from these differences, the limits of the serosa could be distinguished by the absence of germinal epithelium. In the ovaries of the thirty-three and fifty-one days' old foals, as well as that of two months, and the year-old foal, a strongly marked limit was to be seen. The serosa lay close on the germinal plate, then bent inwards; while at the same time it curved toward the germinal plate and stroma. The limits of the first were here marked by an indentation. The outer surface of the serosa was covered by pavement epithelium, which appeared granulated, and showed also one or two large nuclei, which were likewise granular. The cells lay very close together.

(*To be continued.*)

---

## INTERMITTENT LAMENESS CAUSED BY PARTIAL OCCLUSION OF THE POSTERIOR AORTA AND ITS DIVISIONS.

In the September number of the *Veterinary Journal*, an interesting case of aneurism of the posterior aorta was described by Mr. Roalfe Cox, the prominent symptoms of which were intermittent lameness or "cramp" in the hind-limbs, and much apparent distress during movement, or immediately afterwards.

Cases of this description possess an unusual amount of interest for the veterinary pathologist, inasmuch as they may be more frequent than is suspected, on account of the difficulty of diagnosing them; so that a trustworthy and accurate account of them must always prove acceptable. The last recorded instance is given in the August number of the *Archives Vétérinaire*, of Alfort, as occurring in the clinic of that school, and is described by M. Nocard, *Chef de Service*. The animal which was the subject of the lesion, was an entire heavy draught horse of the Flemish breed, aged eight years. About a month previously it had been lame in the left hind-limb, and the veterinary surgeon who was called in, believing the cause to be located in the region of the patella, applied a large vesicant to that part. Some time after, the animal went lame on the opposite limb, and the lame-

ness increasing in intensity, the veterinary surgeon declared the case to be incurable, and recommended the owner to dispose of it to the horse butcher while it was yet in good condition. Before adopting this recommendation, however, the owner sent it to Alfort for examination: the result of this examination is given by Nocard.

Standing in the stable, the horse appeared to be in excellent health and condition, with the exception of trifling acceleration of the respiration, which might have been due to pharyngeal Angina, from which it was recovering. At a walking pace no irregularity was observed, and when made to trot nothing was noticed until after about a minute, when lameness of the right hind-limb was perceptible. This lameness was very slight at first, but in the course of four or five minutes it became so intense that the limb could not be placed on the ground; then the animal stopped, and would not go on, notwithstanding the application of the whip: standing with the head low, the body leaning forward as if to throw the weight on the anterior extremities, and the right hind-leg, which was elevated, trembling and continually moving; while the left hind-leg, participating in weight-bearing, was shaking, tremulous, and the articulations half-flexed, as if the limb was unequal to its task. By means of the whip the horse was compelled to move again, but, as before, it soon stopped, in spite of this persuasion; the breathing became hurried, the flank retracted, the face pinched (*grippée*), the eyes widely opened *(grands ouverts)*, the pupils extraordinarily dilated,—all these symptoms being accompanied by an indescribable expression of pain. The anterior part of the body, the trunk, and even the neck, were covered with perspiration, but the posterior parts were almost dry; while the hand could detect a very marked difference of temperature between the anterior and posterior regions.

The animal did not place any weight on the right limb, but kept continually moving it up and down; whenever the foot touched the ground it was immediately raised in a state of extreme abduction, as if the mere contact of a resisting body had caused excessively acute pain. The left leg supported a portion of the weight of the body; but it appeared weak, as it

trembled, knuckled over, and the animal very often made a kind of jump, as if to relieve this limb if only for an instant.

All these singular symptoms indicated, as clearly as possible, that the posterior members were the seat of that kind of pain which is frequent in mankind, even when in good health, and which the French have designated "*fourmillement*," or formication. After some minutes' halt at the place at which it had stopped (for it could not leave it until rested), the horse was conducted to its stall at a walking pace, on three legs, and as it threatened to fall at nearly every step, it had to be supported on each side. Progression was exceedingly painful, as each step necessitated violent and exacting contractions, the trunk was thrown forward on the anterior limbs, and the left hind-leg, which alone was placed on the ground, could scarcely sustain the hind-quarters.

On reaching the stable, the horse remained for some minutes in a state of almost complete immobility, exhibiting only oscillatory movements and tremblings, with the semiflexions and hopping on the hind-limb. Perspiration rolled off the anterior region of the body, but the posterior parts were dry, the hair being scarcely damp. At length the animal lay down, and the alarming symptoms disappeared; so that in an hour the horse seemed to be in a perfectly normal condition. Two hours later, when submitted to the same exercise, the previous symptoms were reproduced in the same order of succession, and with the same intensity; they disappeared, as before, after prolonged rest.

With regard to diagnosis, the collective symptoms evidently arose from momentary paralysis of the muscles of the hind-quarters. But to what cause was this suspension of the function of these muscles due? A lesion of the nerves of the region could not be admitted, as there would then be permanent paralysis. But these muscles appeared to possess sufficient contractile power to sustain the animal either while standing or moving gently; but when energetic action was necessary, they seemed unable to contract. The difference in temperature observed after exercise, between the anterior and posterior parts of the body, clearly proved the correctness of this interpretation. Physiology, likewise, gave an explanation of this fact. When

an organ is acting, the quantity of blood it receives during repose is enormously increased—that in the muscles being, according to Claude Bernard, in the proportion of one to six. This blood carries the nutritive and stimulant materials necessary to replace those consumed or burned during muscular contraction; it also removes from the muscles the carbonic and inosic acids, as well as the urea, creatine, and all the other products of combustion which would otherwise impregnate their fibres, and form around them a kind of stupefying atmosphere. It is also known, since the experiments of Helmholtz, that if the course o the blood passing through a muscle is interrupted, the muscle will immediately refuse to contract; and if the flow of blood is diminished, the muscle is much sooner fatigued—paralysis ensuing all the more rapidly as the organ receives less blood, and as the contractions are more rapid and energetic.

All these considerations led to the conclusion that the symptoms above described were due to a considerable check to the flow of blood or a great diminution in the quantity of that fluid distributed to the posterior part of the body.

Several causes, it was obvious, might produce this diminished circulation: such as the existence of a clot in the posterior aorta or in the vena cava, or the development of any kind of tumour in the vicinity of these vessels, which would exercise pressure on them. These causes, it was further urged, would produce the same result: diminution in the calibre of the vessels, and consequent retardation of the blood flow. An analysis of the symptoms, however, entirely precluded the possibility of venous obstruction; this lesion being accompanied in every case, and particularly during exercise, by œdema of the dependent parts, of which there was no trace in this instance. An exploration *per rectum* proved that the aorta was quite unobstructed externally, and that there was nothing in its vicinity which could press upon it in such a way as to modify the flow of blood in its interior. There was, therefore, nothing remaining but the hypothesis of a clot in the interior of this vessel or its divisions—an hypothesis which certainly fairly accounted for the phenomena observed.

But in matters of science a positive proof is better than ten negative ones. Rectal explorations did not afford any evidence

of the existence of a clot in the interior of the aorta; and at the first thought it might seem that it should have done so. But it must be remembered that the sensation experienced by the hand in this region is confused and little to be relied upon, in consequence of the thickness of the walls of the rectum and the aorta, and especially of the layer of fat on the peritoneal surface of these two organs, due to the gross condition of this patient. The pulsation of the aorta and its branches could be distinguished in this horse as readily as in others—the only difference being that in this case there was an unusual difficulty in depressing the wall of the vessel; but it could not be concluded from this that the course of the blood was not quite unimpeded. The only deduction ventured upon was, that the clot, if there was really one, did not completely obstruct the vessel; that it did not adhere by all its surface to the inner surface of the artery; and that there must exist a space more or less wide which allowed the blood to circulate in a certain measure through the tube—which would explain the persistence of the cardiac pulsation. If it were otherwise—if the clot entirely filled the calibre of the artery—there would not have been observed the intermittence in the symptoms, but the lameness and paralysis would have been continuous.

The diagnosis, therefore, was: Partial obstruction of the posterior aorta, due to the existence of a clot extending to the iliac arteries of the right and left sides, but much less in size in the left than the right.

The disease being pronounced incurable, the owner consented to have the animal destroyed; this was done by arteriotomy, and an examination was then made of the body. On opening the abdomen and removing the intestines, as well as the layer of fat (nearly eight centimetres thick) lying in the lumbar region, the aorta being exposed for its entire length, a striking difference was noticed in its appearance in front and behind. In front it was depressed and flattened; its walls were nearly in contact; while behind, on the contrary, from the point of emergence of the renal artery—that is, eight or nine centimetres before its bifurcation—the aorta was as distended as during life, though it was hard and resisted pressure: a circumstance which led to the

conclusion that it contained a clot. This clot was prolonged into the bifurcating branches of the aorta, and the iliac arteries were not collapsed or reduced in volume to the size of a quill, as in ordinary cases, but were distended by the clot, which extended for a considerable distance in their interior. The right iliac arteries, however, were nearly double the size of the left, and their clot was therefore more voluminous.

In excising the walls of the aorta, the exact dimensions of the clot and its physical characters were seen. All the anterior portion, which was about five centimetres in diameter, was free from adhesions; it was irregularly conical, the apex being anterior; the colour was white; and it was easy to note that it was formed by fibrinous deposits successively added to the pre-existing clot. It was only quite near the bifurcation of the vessel that the clot contracted an intimate adhesion with the internal face of the aorta; and in tearing it away, it was observed that at this part the lining membrane of the vessel was rough and granular, and had lost its smooth, shining, epithelial layer: an appearance which testified that there the primary lesion had existed which led to the formation of the voluminous clot. From this point the mass extended into the majority of the arteries which emerge from the aorta. It occupied the whole length of the right external iliac trunk and the femoral of the same side, as far as its giving off the popliteal and femoro-popliteal arteries. Throughout this extent it was composed of colourless fibrine, the fibres of which were interlaced in an inextricable manner; superficially, however, it had a varying reddish tint, as if stained with blood. Here and there it adhered to the inner face of the artery, the extent of these adhesions differing according to the points; though they were never sufficient to entirely obstruct the vessel—an interval always remaining through which a certain quantity of blood might circulate, and which would vary during life according to the strength of the heart's impulsion and also the limit of elasticity of the arterial walls, which, because of the considerable dimensions of the clot, could not allow the passage of sufficient blood to satisfy the demands of the muscles during contraction.

The right internal iliac artery contained a clot almost as large

as that of the external iliac; but this clot, which had otherwise the same characters and presented the same peculiarities, terminated abruptly soon after the origin of the subsacral trunk. The obturator, iliaco-femoral, iliaco-muscular, anterior gluteal, subsacral, and great anterior and posterior muscular branches, were all partially obliterated by clots of the same kind, and continuous with that of the aorta, but smaller by half than those of the same arteries on the right side. The clots in these terminated abruptly after a course of eight or ten centimetres.

The lining membrane of all these arteries had undergone alteration. Where it was free from adhesion with the clots, it was normal—smooth, shining, and slightly rose-tinted; but where the clots had adhered more or less closely with it, the membrane either presented blackish vegetations, or deep-red patches of ecchymoses. These points were dull, the serous membrane had been removed, and it appeared that the abnormal colour it offered was due to superficial staining by the colouring matter of the red globules of the blood.

The curious pathological specimen is deposited in the museum of the Alfort School.

# Editorial.

## THE EXAMINATION OF HORSES AS TO SOUNDNESS.

Of the many and widely diverse duties which are embraced in the daily practice of the veterinary surgeon, perhaps the most exacting and responsible is the examination of horses, in order to ascertain their soundness. This task demands more skill and tact than the performance of the gravest surgical operations; while the responsibility incurred continues beyond the immediate period of examination, and may carry with it serious consequences. The senses of vision, hearing, and touch, have all to be brought carefully into play to discover the existence of disease or defect in any of the organs or structures which are accessible to their investigation; and this detection requires a perfect knowledge of anatomy, physiology, and pathology, as well as pathological processes.

In addition, expertness and manipulative tact are needed, in order to go about, and to properly handle, the horse under examination; and this not unfrequently makes a large demand upon the courage and address of the examiner, who ought also to be a good horseman, so that he may be able to test the respiratory qualifications of animals suspected of being defective in their breathing apparatus.

The veterinary surgeon, in fact, who undertakes the examination of a horse as to its soundness, undertakes to protect his client from loss, by ascertaining for him the state of its health or fitness for work—special or general; and in direct proportion as horses increase in value, so do his services and responsibilities.

These services and responsibilities deserve more consideration than the public, or even the veterinary profession in this country have hitherto given them, in view of the enhanced value of horses, and consequently the greater care and skill necessitated in their examination.

Until quite a recent period, the universal charge for this duty—except at the Royal Veterinary College, where it is performed for next to nothing—has been half a guinea for each horse examined; but now many practitioners justly demand a guinea, and we believe receive it as readily as they previously did the half of that sum. This charge, it must be remembered, is that which a physician makes for a few minutes' consultation in his room, during which he is not exposed to the personal risks attending the veterinary surgeon's scrutiny, nor perhaps are his responsibilities and difficulties so great.

We therefore believe that the time has now come when the fee of a guinea should be fixed upon by *every* veterinary surgeon as a fair remuneration for what is now-a-days a very responsible and important task, and one which demands the greatest ability and judgment on the part of the examiner. This charge cannot be said to be too high, and all who do their duty conscientiously will be ready to assert that it cannot be less. Our services are often valued as we ourselves value them. If they are undervalued, we generally are alone to blame.

## PROTECTIVE INOCULATION FOR CONTAGIOUS PLEURO-PNEUMONIA IN AUSTRALIA.

A GOVERNMENT return, which is the completion of an order made by the Assembly of New South Wales in 1875, relative to a proposed Stock Disease Prevention Bill, and other information respecting the diseases of cattle and sheep, discusses the efficacy of inoculation as a preventive of contagious Pleuro-pneumonia. It contains an immense mass of evidence for and against inoculation—the preponderance being in favour of that remedy. The chief inspector, Mr. Alex. Bruce, in his report thus sums up the opinions arrived at by the inspectors of stock for the colony :—

General remarks and conclusions.—When, therefore, the facts here adduced with respect to the efficacy of inoculation for Pleuro-pneumonia, and the nature and character of that disease, as well as the fruitless efforts which have hitherto been made to stay its spread in this and the neighbouring colonies, are duly considered, the conclusions arrived at can be none other than those agreed to by the Conference of Chief Inspectors of Stock, held in Sydney in November, 1874, namely—(1) That, as in all other parts of the world, so in Australia, every attempt to *cure* this disease has proved utterly futile. (2) That the endeavours which were made in these colonies to stamp it out, by destroying the infected herds, were complete failures, through the impossibility of maintaining a perfect quarantine of the infected herds. (3) That inoculation for Pleuro-pneumonia is now very generally practised, and has proved a thorough preventive against the disease ; and (4) That under these circumstances the only course left is, either (*a*) To let matters stand as they are, and allow those owners who are either too selfish or too prejudiced to inoculate their infected cattle, to travel them, as they are now doing, from one end of Australia to the other, leaving the dead and dying, and spreading the infection in all directions, whereby the Colonies suffer a loss of something like *half a million* a year ; or (*b*) To pass some measure which will make the inoculation of infected cattle compulsory, and otherwise regulate the cattle traffic.

Reduced to these two alternatives, the decision must be easily arrived at ; for it is very short-sighted, as well as very unjust, now that the efficacy of inoculation has been established, that mobs of diseased cattle should be allowed to be driven through (it may be) scores of runs, on which the stock are free from infection, and infect them ; and the only course left is for all the Colonies to pass a compulsory measure, containing some such provisions as the following ; namely :—(1) That every *mob* of cattle which has become infected be inoculated, when the virus can be obtained in the mob, or in any cattle within a practicable distance. (2) That owners give notice of every outbreak of the disease to their neighbours, to inspectors, and to the public. (3) That no inoculators but those authorised by the Government be allowed to inoculate for others. (4) That properly inoculated cattle depasturing on a run, on the expiry of *six weeks* from the last case of disease, be allowed to leave the run, and to pass over infected ground, without being deemed infected. (5) That all travelling cattle actually affected with or suffering from Pleuro-pneumonia be killed immediately they are found to be so. (6) That if the travelling cattle in which any animal is thus found to be actually affected be fat stock, they be taken by day to their destination by the roads least likely in the opinion of an inspector to spread the disease, and timely notice be given by their drovers to all owners of horned stock on or near the road, that the mob is infected. (7) That where the travelling cattle in which any animal is thus found to be actually affected with Pleuro-pneumonia are store stock,

they be stopped and inoculated as soon as practicable, and afterwards taken to their destination, as provided for in the preceding regulation; but such cattle be not required to travel more than six miles a day for the first thirty days after being inoculated. (8) That in colonies in which Pleuro-pneumonia exists, the owner of travelling cattle give notice of his intention to cross or pass along runs where stock of the same description are kept, if the road be not separated from the run by a sufficient fence. (9) That drovers do not abandon any travelling stock, nor leave the carcases of any stock which may die, undestroyed.

If some such measures as here sketched were passed and fairly enforced in all the Colonies for eighteen or twenty months, there would not be *one* outbreak of Pleuro-pneumonia for *twenty* which now occur; and if—as would naturally be the case—the strictness of the surveillance were increased as the prevalence of the disease was curtailed, we might fairly expect that in the course of three or four years it would be completely eradicated in all the Colonies; and, as the regulations with respect to the importation of stock from places outside these Colonies are now on a thoroughly efficient basis, Pleuro-pneumonia could never again obtain a footing in Australia.

---

## THE DELHI SORE OR BOIL, AND BURSATTIE.

In an interesting paper on the "Delhi Sore," or "Boil," otherwise known as the "Scinde Boil," "Moultan Sore," "Bouton d'Alep" or "Aleppo Evil," "Bouton de Biskra," "Phlyctis Endemica," etc., Dr. Fayrer remarks in the *Practitioner* for October, 1875, that the disease is not confined to human beings; it being observed in Delhi that the dogs are very liable to be affected, especially in the nose. In some districts other animals are affected; and he adds that it seems probable that the indurated, indolent, and intractable sores that horses are liable to in India, called "Bursattie" (Rain Sore), is of the same character.

The Delhi Sore has a wide tropical distribution, and doubtless prevails wherever certain conditions of soil and hot climate co-exist. Though called a "Boil," it is not a furunculus, but an indurated, indolent sore, papular in the early, encrusted or fungating in the advanced stages; spreading by ulceration of skin; single or multiple, often occupying extensive surfaces of the exposed parts of the body, such as the face, neck, and extremities in man. It is due to particular cell-growths, and has been referred to by some authorities as the ova of Distoma; by others as products of abnormal nutrition, infiltrating the normal tissues, and capable, if inoculated, of reproducing the disease. If the ulcer is cut into, yellowish points are seen, consisting of minute cellular growths, which have been described by some as the ova of the Distoma, but are now generally considered to be the result of cell growth connected with the hair and gland follicles—perhaps an abnormal development of connective-tissue corpuscles, or an imperfect form of granulation. After ulceration has disintegrated the surface, mycelium or other low forms of organism may be present; but this, according to Fayrer, is not the essential cause, but rather an accidental introduction from without. An ordinary boil or abrasion not unfrequently assumes these specific characters. As has been said, the disease is regarded as contagious, and apparently may be produced by inoculation of the specific cell matter, though not by the pus which forms on the surface. The state of the health and certain conditions of climate, soil, and water, are concerned in its production.

Further investigation into the causation and pathology of the malady is

needed, especially with reference to the cellular structures that evidently are the essential constituents of the disease; but Fayrer concludes that it is tolerably certain that they are not of extraneous origin, and are not the ova of any parasite, but are rather due to the abnormal cell-growths.

The fact that dogs are more particularly affected about the nose, as was first reported by Russel with regard to the Aleppo Pustule, has however been adduced as strong evidence in favour of the theory that it is due to the presence of a parasitic ovum which finds its way there from the water.

As treatment, we have recommended early destruction of the sore by potential or actual cautery: the application of metallic astringents—iodine or carbolic acid lotion; pressure; attention to the state of the health and any ailment that may be present; tonics and nutritive diet; removal to another climate,—are the measures most likely to prove effective.

---

## SEPTIC MAMMITIS IN THE SHEEP.

In the veterinary journal of the University of Pisa (*Giornale di Anatomia, etc., degli Animali*, 1875) Professor Rivolta describes a form of Mammitis prevailing among sheep in the neighbourhood of Pisa, towards the end of winter and commencement of spring, and to which he has prefixed the designation of "Septic." He gives it this designation because, when it begins at a certain part of the mammary gland, there is noted a kind of putrefaction of the juices of the skin, as well as of the gland itself; and, besides, in the sero-sanguinolent fluid in the connective tissue of the gland are remarked a very active element in the process of putrefaction in the presence of *micrococci* and *bacteria*.

The disease appears to be perfectly distinct from the Gangrenous Mammitis, and the Gangrenous or Anthracoid Erysipelas, described by various writers. It is a local malady which usually invades the gland, extending at a certain rate of progress, and most frequently proving fatal. It ordinarily commences in the neighbourhood of, or in, one of the teats; if the latter, it offers a circumscribed œdematous tumefaction, while the surface of the skin thereon is intensely red. This red patch rapidly assumes a grey colour, and finally becomes almost black. Sometimes blood escapes from the affected teat. This œdematous swelling and discoloration gradually extends; and in a more or less brief period of time has invaded one-third or one-half of the udder—not even sparing the tissue of the gland. The whole of the affected part is then tumefied, doughy, consistent enough, slightly or not at all sensitive, and dark or black in hue. The line of demarcation between the healthy and diseased portion is perfectly defined; the former being of a rosy colour, and normal in size and consistency. The diseased condition spreads beyond the udder to beneath the abdomen, and when an ulcer appears on the gland, it discharges a fetid sanguinolent fluid; the animal then becomes depressed and feverish; debility and emaciation set in, and the creature succumbs to an attack of Septikæmia.

The numerous necroscopical examinations made by Rivolta confirm, in his opinion, the distinction he has established between this special malady and Erysipelatous Mammitis. With regard to the causes, the shepherds affirm that the malady attacks those sheep which are kept for a long time on a thick bed of litter; others, again, assert that it appears when they are allowed to pasture in the open air, and are not confined. The same uncertainty prevails with regard to its contagiousness. The shepherds carefully isolate the

affected animals; and it would seem that by their doing so the disease is limited to those first attacked.

Rivolta is of opinion that this form of Mammitis is produced and maintained by special *micrococci* and *bacteria*, which penetrate by the teats, or at some part of the skin covering the gland.

---

## THE VETERINARY DEPARTMENT OF THE SPANISH ARMY.

FROM an interesting letter on the Spanish Cavalry, which appeared in the *Times* for September 22nd, we learn that the strength of a cavalry regiment in that country is four hundred horses, and that the *Professor Veterinario*, or chief veterinary surgeon of the regiment, has the rank of Captain, and receives fifty dollars (the value of the dollar is 4s. 2d.) per month. It would appear that the veterinary surgeon is on the same footing, as to pay and position, with the Surgeon-major or *Ayudante-Medico*, who ranks as Captain, and receives fifty dollars a month; while the chaplain has only the rank of lieutenant, and receives thirty-six dollars. The captain receives 1200 reals (the real is worth 2½d); the major 1600; and the colonel 1800.

There are four shoeing-smiths for every hundred soldiers (horses?); and a regiment consists of five hundred and seventy officers and men. The pay of the shoeing-smith is that of the private, except that he receives ten pesetas in addition every month.

"The stables were an interesting and noisy sight; the high-mettled horses (all are entire horses) neighing and kicking, and the stablemen shouting and interfering by hand and voice. These horses are Spanish-bred, and come from the great breeding grounds near Cordova and Jerez. The average cost is £35 to £40 per horse, and their age is from four to twelve years. They are slight, showy animals, and stand five *dedos* above the average of Spanish horses. The men ride exceedingly well and fearlessly, with a perfect seat. Each horse has a half *celemin* of barley, and twelve pounds of chopped wheat or barley straw *per diem*."

---

## THE MORTALITY AMONG HORSES IN EGYPT.

THE epizoöty we alluded to in our last issue as having broken out among the horses in Egypt appears to have been of a most formidable character, and has proved most destructive in its effects. A letter from Alexandria, under date of September 16th, says:—

"The horse disease is, I fear, spreading fast. When I last wrote it was confined to the two districts of Cairo and Zagazig, a cotton centre, half-way between Alexandria and Suez. But in the last week there have been numerous cases in the Delta. It has made its appearance at Tanta, Mansourah, Mahalla, and Bisket,—all large towns and centres of cotton culture and trade, and all in constant communication with Alexandria. So I fear we shall have it here very shortly. In the canals dead bodies are to be seen floating about in quantities; and as they supply water to the people as well as to the cotton lands, we are beginning to dread the outbreak of some epidemic. At Zagazig the plague is dying out, as nearly all the horses are dead. The crowds of wild dogs that serve as the scavengers there, have been poisoned in great numbers by feeding on the carcases. It is difficult to estimate the loss to the country by this destruction, as the season commences, of the means of conveying the cotton from the fields to the factories and railway. Popular talk goes as high as millions. Anyhow the loss will be very great."

The *Levant Herald* states that there were some premonitory symptoms of this disease last year, and a great many valuable stables were ravaged by it —amongst others, that of Riaz Pacha, Minister of Justice. Latterly the malady has spread with extraordinary rapidity, almost emptying the cavalry and artillery stables, and attacking the stud of the Khedive himself, who has lost a number of valuable animals.

The malady is supposed to be of an anthracoid nature; but it is most unusual for diseases of this class to spread by mere contact, and to be imported from one region to another like this, which, carried from Abyssinia, has become diffused over Lower Egypt. If the statement as to the dogs perishing after eating the flesh of the dead horses is correct, then it would seem as if the scourge is allied to Anthrax.

Horses appear to have been always liable to such visitations in that part of the world; and one of the most startling is recorded in an Arab treatise on veterinary science, written by a wealthy chief of Yemen in 909 of the Hegira, and entitled "Kitâb el Akouâl." The far-famed horses of Yemen appear to have been more particularly visited. We find the following notice of it in "El Nâceri," a French translation of which appeared in Paris in 1860:—

"The epizoöty which attacked the horses of Yemen in the year of the Hegira 728 was of the worst character, and rapidly fatal. No one knew how to recognise or characterise it; and in no book or hippiatric treatise of past ages could any distinctive traces of it be found mentioned. No remedy could be devised to cure it. The animal attacked was not allowed time to benefit by medical or any other kind of treatment.

"This malady had not, like other diseases, any premonitory symptoms. It suddenly attacked the animal, which perhaps would be eating, and all at once something escaped from the nostrils like mucus. For a moment the horse's head was drooping on the ground, from which it had no longer any strength to raise it, and then the animal fell dead. Sometimes it struggled for a few seconds before it expired. The malady first began in the kingdom of Hadramaût, then it was propagated into Yemen, and as far as Mecca. An incalculable number of horses perished.

"Mules also died in great numbers, but not so numerously as the horses. The best and purest breeds of the latter furnished the largest number of victims to the scourge. At the great fair of Aden they died in crowds. So quickly did the animals succumb, that while two people were discussing the price of a horse, the disease seized upon it, and it died before they had time to conclude the bargain. Horse-dealers from India also bought horses at Aden, and at very high prices; but these carried the malady with them, and suddenly perished.

"It was observed, as a consequence of these frequent repetitions, that the Indian dealers carefully everted the upper eyelid of any horse they were about to buy; and any animal that showed a yellow tint in this part they abstained from purchasing. Indeed, when this tinge was present, it was not long before the horse succumbed to the malady."

---

## SERIOUS LOSS OF LIFE FROM A RABID DOG.

BY GORING.

(*Wochenschrift für Thierheilkunde.*)

GORING, veterinary surgeon at Speyer, relates a case of Rabies in a dog, whose bites resulted in fatal consequences to several people. On July 8th,

a middle-sized black dog was seen wandering along the canal of the Rhine, near Ludwigshaven. At six o'clock in the evening, it bit a little boy, ten years old, in the right fore-arm ; then it entered the house of the lock-keeper, Schulz, and bit the index finger of the left hand of his son, aged fifteen years, who attempted to drive it from beneath the bed where it had taken refuge. Thence, the animal ran into the cottage of a man named Huber, and here also it dashed beneath a bed ; in expelling it the proprietor received six wounds on the right arm. From information subsequently received, it, when chased, ran along the Rhine *and drank of the water*, attacking on its course the dog of a brewer, and biting in the left breast the brewer's wife, who tried to confine it in the courtyard. Finally, it was killed by the servants about nine o'clock in the evening.

The bite on the woman's breast was merely a contusion, thanks to the clothes ; it was attended to by a surgeon.

It appears that the dog belonged to a person named Neuheiser, of Morsh, and that it had broken its chain and escaped ; though it had not previously exhibited any symptoms of illness. Nevertheless, in view of the number of people who had been wounded by it, an examination of its carcase by two veterinary surgeons was ordered to be made by the police. This was done on the tenth of July, but no lesion which might lead to the supposition that it was rabid could be found.

On July 24th, the wife of the lock-keeper, Huber, went to the cantonal doctor, and told him that the wounds on her husband's arm always had a blue colour, and healed very slowly ; that since he was bitten he had not felt well, though he continued his work ; that for eight days he experienced lancinating pains in the injured arm ; and that since the previous evening a great weakness in his joints had kept him confined to bed. In addition, he had a most decided loathing for food and drink, and he had also a spasmodic movement in his throat every time he tried to swallow.

The surgeon, on visiting him, found the wounds indurated, swollen, and of a grey colour ; the glands of the arm and axilla were enlarged ; about every five minutes he gave a slight hiccup, and at the mere sight of food or water his eyes rolled about anxiously in their orbits, and the body was thrown back as if to prevent contact with it. Some drops of fluid introduced into his mouth by force caused such convulsions that he had to be held in bed. The same excitement was manifested on exposure to the least draught of air whenever a door or window was opened. The pulse was small, the respiration tranquil during the intervals of calm, and the temperature of the body was normal, as were the fæces and urine. The patient complained of a little giddiness, and a kind of buzzing in his ears.

On the 25th all the symptoms were aggravated, and there was not a moment's rest ; the head was thrown about in every direction, and all the muscles of the body were continually in movement. The poor man convulsively grasped and clung to the people near him, and pressed and shook them—all the while assuring them that they had nothing to fear, and that he would not bite them. His face betrayed the greatest anxiety ; and so abundant was the perspiration that in a few minutes his shirt was as wet as if it had been steeped in water. The pulse was quick and scarcely perceptible ; the skin on certain parts of the body was completely cold, and the pupils were dilated ; but the patient did not allude to any special pain, and fæces and urine were still normal. Every external impression, such as any one entering his room, threw him into severe cramps. At eleven o'clock the same evening he died. The autopsy did not reveal any alteration, except slight hyperæmia of the brain and spinal cord, a little fluid in the ventricles and spinal canal, and trifling redness of the mucous membrane of the larynx and pharynx ;

the venous blood was extremely dark-coloured. Without any hesitation, the doctor asserted that the man had died from Rabies.

On the 21st, the young man eighteen years of age had to take to his bed, being affected with cramps in the limbs, lassitude, and a great difficulty in swallowing. He died on the 23rd, without having been visited by the doctor. During the access of convulsions, he attempted to climb the walls of the room.

The young Schulz, whose wound had been dressed by a surgeon, did not experience anything unusual until the 22nd of July; but he perished in a few days afterwards, with the same symptoms as the preceding.

So that of the four persons wounded by the dog, the woman alone escaped death—thanks to her dress.

It will easily be believed that after this disaster all the precautionary measures applicable to dogs were rigidly enforced.

Goring terminates this sad narrative by observing that, even if the two veterinary surgeons who made the autopsy of the dog on the tenth of July could have arrived at the conclusion that it was rabid, from the lesions found in it, this would in no way have had any preservative influence with regard to the victims inoculated by it on the eighth of that month.

---

## ANTHRAX, OR SPLENIC FEVER.*

BY DR. BURDON SANDERSON, F.R.S.

THE first infective disease in respect of which it could be asserted with anything like probability that a specific organism was present, either in the blood or tissues, was Splenic Fever. The peculiar staff-shaped bodies which are apparently always contained in the liquor sanguinis in this disease were discovered in 1854, or perhaps earlier; but their significance is still matter of dispute, there being great difference of opinion, even among those who admit that they are characteristic of the disease, as to the part they play in the morbid process.

Before proceeding to discuss this question, it will probably be useful to give some account of the phenomena of the disease during life and after death.

### *Phenomena during life.*

In the works of systematic writers on veterinary pathology, there is considerable obscurity as to the definition of the term Splenic Fever, or (to use the German and almost as familiar word) *Milzbrand.* This arises not so much from want of clearness in the language employed, as from the effort to unite a number of clinical forms under one nosological species, without perhaps always taking sufficient pains to distinguish between what is essential and what is accidental.

The most striking feature of the disease is its extremely rapid progress. In the most rapid cases, those to which all writers refer as "apoplectic" (although the term is far from being expressive of what is observed), the disease runs its course in a few hours at most. In the ordinary cases as they occur among cattle, it lasts a day or two, its course being more or less as follows :—

An animal which perhaps for the previous day has declined food and shown signs of general disturbance, begins to shudder and to have twitches

* From the Report of the Medical Officer of the Privy Council.

of the muscles of the back, and soon after becomes weak and listless. In the meantime the respiration become frequent and often difficult, and the temperature rises (Bollinger) to three or four degrees above the normal; but soon convulsions, affecting chiefly the muscles of the back and loins, usher in the fatal collapse, of which the progress is marked by complete loss of power of moving the trunk or extremities, diminution of temperature, mucous and sanguinolent alvine evacuations, and similar discharges from the mouth and nares. The visible mucous membrane, congested from the first, becomes intensely so as the disease progresses.

In the horse the disease presents similar characters, but is much less acute. Partly as a consequence of this, and partly as a result of the greater attention paid to the more valuable animal by veterinary practitioners, the local affection is more frequently recognised during life, so that the case is often recorded as of "acute splenic tumour."*

*Pathological Anatomy.*

Of the phenomena revealed by dissection, those which relate to the blood itself, to the circulatory and lymphatic systems, and to the spleen (which may be regarded as a part of both), are by far the most important. In the blood the relative number of the colourless corpuscles in all excepting the most rapid cases is very considerably increased. In the horse, in consequence of the usually longer duration of the disease, this increase is so great that the blood in some cases assumes the leukæmic character. The absence of coagulability and the general tendency, not only of the liquor sanguinis, but also of the corpuscles, to soak or squeeze through from blood-vessels into all the cavities of the lymphatic system, whether serous or interstitial, shows itself in the former, and particularly in the peritoneum, by the accumulation of large quantities of sanguinolent liquid, by the intense congestion of the membrane, and by the innumerable hæmorrhagic patches with which the congested parts are everywhere beset. In the subcutaneous, submucous, and subserous cellular tissue the same changes are in progress, though not in all directions in the same degree. Under the skin, infiltration of this kind often gives rise to localised swellings, which are apt to be called carbuncles. In the neck it surrounds the pharynx and larynx, and extends downwards by continuity of tissue to the anterior mediastinum, as well as among the muscles. In the abdomen it occupies the retro-peritoneal space, in which all the organs are similarly soaked with liquid, turbid from the presence of corpuscular elements and discoloured by altered blood. To this condition veterinary pathologists have assigned the term "typhous infiltration" (*gelbe sulzige Infiltration*).

Of the enlargement of the spleen nothing can be said, excepting that it is always observed, and that taken in connection with the "infiltration" of the connective tissue already described, it constitutes the most constant pathological feature of the disease. The enlarged spleen, when examined in acute cases, is soft and soaked with blood, its capsule often appearing to be distended. In more protracted cases it acquires greater firmness, but does not at first diminish in size. Nothing is known, so far as I am aware, of the structural changes which take place in the splenic tissue, except in so far that even in the acute forms there is reason for believing that the augmentation of volume is not entirely the result of Hyperæmia, but is also due to the multiplication of the elements of which the organ is composed.

* *Bollinger*, Zur Pathologie des Milzbrandes. Munich, 1872. The above description is chiefly founded on the clinical observations contained in this work. The symptomatology of the disease is also fully given in Prof. Korángi's article in the Handbuch der Allgem. und speciellen Chirurgie, vol. i., part ii., p. 149.

Finally, in the digestive canal generally, and particularly in the fourth stomach and duodenum, there is usually extreme congestion of the surface and sero-sanguinolent infiltration of the mucosa. In bovine animals this condition extends along the whole course of the intestine, so that it is common to find its whole cavity filled with dark blood-stained liquid. But in the horse the process is localised in particular places. A favourite seat of these so-called "typhous" or "carbuncular infiltrations," of the mucous membrane is the pyloric end of the stomach and the adjoining part of the duodenum; here foci of infiltration may be recognised, even before the viscus is opened, by the patches of dark lividity of the serous membrane, and by the enormous thickening of parts of the wall of the organ which correspond to them. If they are cut into when of recent origin, the intensely congested infiltrated masses are found to be beset with extravasations; eventually, the central part of each focus is converted into a slough, which, on separating, leaves behind it a slowly healing ulcer, often termed "typhous" ulcer. The so-called carbuncles which occur in Splenic Fever in the horse owe their origin to a similar process. That is, they are to be regarded not as "localisations" of the disease, but as parts of the skin of which the condition differs from the rest merely in the degree of intensity. They are often followed by sloughing of the subcutaneous tissue, with which the general infiltration manifests itself. Among cattle "carbuncles" are rarely met with, so that although one of the names by which the disease is most frequently designated is derived from them, they are by no means characteristic of it.*

### *Discovery of the Organisms of the Blood in Splenic Fever.*

The discovery that in the blood of animals affected with Splenic Fever rod-like bodies are found in the liquor sanguinis, was first, I believe, made by Pollender,† who, in the year 1855, described them as "fine, apparently solid, straight, unbranched objects, from $\frac{1}{4000}'''$ to $\frac{1}{2000}'''$ in length, and $\frac{1}{30000}'''$ in width." He noted that they possessed no proper motion, differing in this respect from ordinary bacteria. The question of their nature, as well as that of their relation to the contagion of the disease, was left open.

A year or two after the publication of Pollender's paper, Brauell ‡ published the first of his very extensive series of researches on the contagion of Splenic Fever, in which he not only confirmed Pollender's discovery, but by experiments in which he communicated the disease to animals under a great variety of conditions, acquired for pathologists the greater part of the accurate knowledge they now possess on the subject. He contented himself, however, with demonstrating that the organisms found in the blood in Splenic Fever were characteristic of the disease, without maintaining that they were or that they were not the *causes* of its virulence, and indeed was disposed to attribute more importance to them as diagnostics than as agents in the morbid process.

Three years later the bodies in question were re-discovered by Delafond and Davaine, who in claiming a priority which did not belong to them, no doubt did so in complete ignorance of the good work that had already been done so well in Germany.

The characteristics of the rods have been recently given by Bollinger on

* The best account of the pathological anatomy of Splenic Fever is to be found in Brückmüller's Lehrbuch der pathol. Zootomie, Vienna, 1869, p. 260 *et passim*. The details are founded entirely on original observations.

† *Pollender*, Microscopische und microchemische Untersuchungen des Milzbrandblutes: Caspar's Vierteljahrschr. f. gerichtliche und öffentliche Medicin, vol. xiii., p. 103.

‡ *Brauell*, Verusche und Untersuchungen betreffend den Milzbrand, Virchow's Archiv., 1857, vol. xi., p. 132. Weitere Mittheilungen über Milzbrand. Virchow, vol. xiv., p. 432.

the basis of observations made expressly for the purpose as follows:—The Splenic Fever bacterium measures usually from 7 to 12 micromillimeters ($= \frac{1}{3500}''$ to $\frac{1}{2000}''$) in length, so that it is about as long as the width of a coloured blood-corpuscle. Its width scarcely admits of measurement.*

Along with the rods, separate cocci are always to be found in the liquor sanguinis, which are regarded by Bollinger as certainly in organic continuity with them. The rods are entirely destitute of proper movement. In the fresh state they appear to be homogeneous, but after they have been acted on by water, or are beginning to be altered by the commencement of putrefactive change, it is seen that each rod is made up of spheroids, each spheroid consisting of a central darker part with a more transparent envelope. The most remarkable fact relating to them is that they disintegrate rapidly from the moment that the blood becomes putrescent. As they disappear, the actively moving rods and spheroids which indicate the commencement of the septic process take their place, but there is no continuity of development between the two kinds of organisms.

### *Conditions of Communicability of Splenic Fever.*

The following are the most important facts relating to the contagion of Splenic Fever which have been ascertained, either as the result of clinical or experimental inquiry.

1. The disease may be communicated by any means which involves the transference of a portion of the blood of a diseased animal to the living tissue of an animal previously healthy. It is not known that it can be propagated by any other way, for animals kept in the closest proximity to diseased ones, and placed under the most favourable conditions for infection through the air, are not infected.

2. Although the blood of animals affected with Splenic Fever always contains the staff-shaped bodies if it is examined at a sufficiently advanced period, the disease can be communicated by the inoculation of blood in which these bodies are either not present, or at all events not in such numbers as to admit of their being made out microscopically.

This was originally stated by Brauell, and has been recently confirmed by Bollinger, as the result of experiments made expressly for the purpose of arriving at a definite conclusion on the subject. He found that the staff-shaped bodies were just as numerous in the animals infected by the injection of blood which was free from organisms as in others. In order to use this fact as a means of judging in how far the staff-shaped bodies take part in communicating to the blood its contagious property, it is necessary to bring to bear upon it what we know as to the relation of other organisms of the same class to the liquids in which they are produced. It has been proved experimentally that two liquids of the same chemical constitution, and placed under exactly the same conditions (*i.e.* both completely protected from external contamination), may stand in an entirely different relation to the ordinary bacteria which pervade all aqueous media, the difference consisting in this,

* The existence of the rods as a characteristic of the circulating blood in animals affected with Splenic Fever, is a fact now admitted by all pathologists who are conversant with the disease. It is, however, remarkable, and at first sight difficult to understand, that many observers have expressed doubts as to their being organised living beings. Thus Leisering (Bericht über das Veterinärwesen im Königr. Sachsen, 1862, p. 29, reported in Canstatt's Jahresb. for 1863), at first took them for fragments of fibrin or for bits of tissue (*Gewebestrümmer*). F. Müller (Physiol. der Haussäugethiere, Wien, 1862, p. 163), thought that they were blood crystals. The statement made by Brückmüller, and repeated by others (l.c. p. 261), that Virchow regarded the bacteria of Splenic Fever as blood-crystals, appears to be an erroneous one founded on a misquotation of an oral communication.

that whereas one of the liquids is proved to be prone to the breeding of bacteria by their appearing in it as if spontaneously, the other may be kept for any length of time without such development taking place. The difference between the two liquids (both of which are, of course, supposed to be placed under circumstances favourable to the growth of bacteria), or rather between the properties which they severally manifest, is usually designated by the terms sterile and fruitful, of which the latter denotes that the liquid to which it is applied contains something which, although inappreciable by the microscope, is already in organic development.

As regards the rods of Splenic Fever, it is not only possible but much more probable than the contrary, that the case is similar. Without attempting to arrive at a conclusion as to the form in which the organisms conceal themselves, it is sufficient to know that the fact of their absence in liquids of proved virulence is in itself no ground for refusing to admit either that they themselves are the contagium, or are concerned in its production, provided that other reasons exist for believing that it is so. It has been sought to demonstrate this in two ways—on the one hand, by separating the rods from the liquid, and determining their pathogenic properties by experiment, and on the other, by testing the activity of the liquid after the rods have been removed from it by some process of filtration. The first of these methods—that employed or rather attempted by Davaine and the French experimenters—has led to no result: and it is difficult to see how it could yield any, first, because complete separation of such organisms from the medium in which they are contained is impossible, and secondly, because in the very act of filtration the organisms themselves would probably undergo such changes as would entirely alter their properties. If, as is probable, the activity of the rods is dependent on their vital functions, there is no reason to anticipate that they would continue to manifest that activity when "out of their element," still less that it would show itself in any descendants or progeny obtained from them by cultivation. The other method has been used by Klebs and Tiegel.* These observers have found that just as it is possible to separate the bacteria contained in ordinary septic products from the liquid in which they are suspended by filtering them under pressure through a stratum of porous porcelain, the same method can also be successfully applied to blood containing the rods of Splenic Fever. The result of the experiments, which it must be admitted were not so frequently repeated as could have been wished, was that the filtrate of blood (or rather the liquid of the spleen of a diseased animal), of the virulence of which experimental proof had previously been obtained, was found to be incapable of communicating the disease. Clearly there is no proof in this fact that the contagium of Splenic Fever is exclusively contained in the rods; but there is proof in it that the agent is, as we believe all other contagia are, a body which is incapable of solution or diffusion, and which attaches itself to concrete *particles*. An additional, and to my mind a more satisfactory, proof of this lies in the remarkable observation made by Brauell—that when pregnant animals are affected with Splenic Fever, the blood of the embryo is not contagious. Brauell found in repeated trials, that in such animals, blood from the fœtal circulation could be inoculated without results. Here the placental apparatus serves not merely as a filter, but as a diffusion cell, keeping back not merely solid particles, but everything which is not capable of passing through animal membranes. Splenic Fever is so incapable of being communicated, otherwise than by actual translation of blood, that the fœtus is not infected by the mother.

* *Tiegel*, Die Ursache des Milzbrandes. Arbeiten aus dem Berner Patholog. Institut, herausgegeben von Prof. E. Klebs, 1873, p. 136.

There are facts relating to Splenic Fever which show, on the one hand, that the contagious property, as it exists in the circulating blood, is very transient; and on the other, that there must be a form or state of the contagium in which it is remarkably persistent. The first of these is proved by Professor Brauell, who having discovered, as has already been mentioned, that the blood lost its activity from the moment that it began to show signs of putrescence, made comparative experiments for the purpose of determining at what period after death this took place, and found that after 3 to 5 days it had lost its activity. He also observed that as soon as the blood began to change, the motionless rods became, as he supposed, transformed into actively moving bacteria. On this point, almost the only one in respect of which his observations appear to have been inexact, he has been corrected by later observers. As has been already stated, there is no organic continuity between the two successive developments. The ubiquitous septic bacteria cannot be regarded as the progeny of their pathogenic predecessors.

*Occasional Latency of the Contagium of Splenic Fever in certain localities.*

That the contagium must have a state of existence in which it is in the highest degree resistent, is obvious from what is known as to the distribution of the disease among cattle. On this subject observations were made and collected by Heusinger* more than twenty years ago, showing how the contagium may take up its residence in very limited localities, betraying its presence only at long intervals by the occurrence of a fresh case. A very remarkable series of observations has been published by Bollinger in his work already so often quoted. The author relates the history of what may be called a stable enzoötic of splenic disease, which lasted from August 1863 to February 1872. During this period more than ten cases occurred at intervals at one stable, situated in the middle of the village of Werikon, not far from Zurich; no cases presented themselves anywhere else in the village or neighbourhood, although the stable in question was, as usual in Swiss villages, closely surrounded by others. In whatever form, the contagious agent must have remained latent in the stable during the whole period.

The general fact, of which this particular instance is the representative, has long appeared difficult to explain. How does it happen that an acute contagious disease, of which the only known mode of transmission is by inoculation, and of which the duration is so ephemeral, does not perish out of existence? Clearly it inevitably would do so, had it not some other as yet unknown means of perpetuating itself. What this means is, it would be too bold to conjecture. I have elsewhere given reasons for thinking that the faculty which various contagia possess of maintaining their activity outside of the body, is more easily explained as a function of life and organization resident in the contagium itself, than any other way.

One of the strongest reasons which can be adduced for thinking that in the present instance the rods are concerned in the morbid process, is to be found in the fact that, like the contagious property they may be supposed to represent, they are very fugitive, and in particular, that like it, and along with it, they disappear at the moment that putrefaction commences. It is therefore not possible to refer to them as contrivances suited for the storage of contagium, or for its conveyance to a distance, for either of which purposes they are obviously unfit. This very consideration, however, can I think be made to appear rather as an aid to our understanding of the relation between organization, or rather living organic form, and contagion, than as a difficulty or objection. For if we turn from the specific form to what we know about

* *Heusinger*, Die Milzbrandkrankheiten der Thiere und des Menschen. Erlangen, 1850, p. 345.

the development and life-history of common bacteria, and indeed of the beings belonging to the same group in general, we find the same thing. Just as in the case of the specific contagium, we are compelled to recognize two states of existence, one enduring and latent, the other active but fugitive; so among these plants we find one condition in which the growth and multiplication of individuals and the individual life is extremely short, another in which the vital activities of the organism are stored up for the future, the individual being for this very end endowed with the power of resisting external disintegrating agencies, and thereby of enduring for an indefinite period.

The common ubiquitous bacteria, those who are concerned in putrefactive changes, are known to be in their ordinary active state easily destroyed. Thus they are unable to survive complete desiccation, or a temperature higher than 80° C. On the other hand, it is equally well ascertained that masses containing bacteria are now deprived of the power of originating new generations of these organisms by heat, unless they are either subjected to a temperature considerably higher than that of ebullition, or boiled for a very long period. The reason of the apparent discrepancy is to be found in the fact that the bacteria have two modes of existence, the one characterized by permanence and resistance, the other by rapid development and short duration; that in all bacterial masses which have the power of resisting high temperature, *e.g.*, in cheese, there exist, in addition to the ordinary forms of readily killed bacteria, other living particles of more stable structure.

The properties of such bodies, to which Professor Cohn assigns the name of lasting spores (*Dauersporen*), are only just now beginning to occupy the attention of mycologists. I have referred to them here in order to show how completely the biography of a schizomyces represents all the phases of the process of contagion.

### *Acute Diseases of Man apparently identical with Splenic Fever—Mycosis Intestinalis.*

During the last few years the pathology of Splenic Fever has acquired an even wider interest than it had before, from the publication of a series of cases of a rapidly fatal disease affecting the human subject, which presents the characters of Splenic Fever, and turns out, on investigation, to be identical with it. The first of these cases was published by Professor Buhl,* at Munich, in 1868. It is that of a man aged thirty-two, who died after a very short illness, of which the chief feature was rapid collapse, with vomiting. After death the stomach and duodenum exhibited a number of circumscribed foci of infiltration, with intense congestion, and extravasations of blood in the infiltrated tissue. The spleen and the lymphatic glands in relation with the affected parts were enlarged, and the peritoneum was full of liquid. The etiology of the disease, *i.e.*, the origin of the infection, was not recognised; but it was found that the foci of infiltration were infested by masses of organisms, which, according to Bollinger, who was present at the examination, exhibited the character of the rods of Splenic Fever. The same structures were found in great abundance in the blood of the portal system. In other parts of the circulation the rods were absent, but spheroidal corpuscles occurred, which were described as *conidia*.

The affection was termed by Buhl "*Mycosis intestinalis*." Shortly afterwards two other cases were recorded by Professor Waldeyer, now of Strasburg.† In one of them, that of a slaughterer, whose occupation pointed to the source of infection, the nature of the disease was suspected during life.

* *Buhl*, Mycosis intestinalis. Centralblatt, 1868, p. 3; and Zeitschr. f. Biologie, 1870, p. 129. Bollinger, loc. cit., p. 114.

† *Waldeyer*, Ueber Mycosis intestinalis. Virchow's Archiv. vol., liii., p. 541.

After death the suspicion was confirmed by the complete correspondence of the lesions with those of Splenic Fever in the horse. As in Buhl's case, the microscopical investigation showed that masses of zooglœa existed in the affected tissues, and that rod-like microzymes were to be found in the circulating blood, particularly in that of the portal vein. Other cases soon followed, all rapidly fatal, and all exhibiting pathological appearances of the same kind, the most constant being the enlargement of the spleen, and the circumscribed hæmorrhagic infiltrations of the intestines, resulting in more or less extensive sloughing of the mucous membrane, and associated with serous exudations, infiltration of the subserous tissue, and hyperæmic enlargement of the lymphatic glands in relation with the infiltrated parts.

Whatever doubt remained as to the identity of *Mycosis intestinalis* with Splenic Fever, was removed by the appearance of a communication by Dr. Münch of Moscow,* who was able to state from the results of his own dissections in the "Workman's Hospital" at that place, that in all the cases in which he had occasion to examine the bodies of men who had died of disease contracted by infection from animals, the intestinal lesions, and the condition of the other internal viscera, corresponded closely with those described by Buhl and Waldeyer. In commenting on this paper, Bollinger points out that in Heusinger's great work on Splenic Fever, a whole series of cases of communication of the disease to man are recorded, in which the appearances after death corresponded with those which have been described; and that in these, as in those recently recorded by Münch, the primary pustule (*pustula maligna*) at the seat of inoculation, often supposed to be the one pathognomonic lesion of Splenic Fever in man, was by no means a constant feature. Out of twenty-eight cases recorded by Münch (1867-71), seventeen exhibited a primary pustule, which in all but two was carbunculous. But in the other eleven cases there was nothing whatever to be found on the skin.

As regards the morphological relations of the organisms found in Mycosis intestinalis with those of Splenic Fever, further investigation is required. So far as the former have been described, they agree completely with the others, as may be readily seen by comparing the drawings of Wagner,† taken rom a case of Mycosis, with Cohn's or Bollinger's representations of the "rods" of Splenic Fever.

The identity of the two forms being admitted, Buhl's and Waldeyer's anatomical investigations afford a key which was before entirely wanting, to the understanding of the so-called "localisations" of Splenic Fever. This key consists in the demonstration that the "*sulzige infiltration*," of which we read so constantly and repeatedly in the descriptions of the veterinary pathologists (German), is a process of which it is *the* characteristic that the tissues of the infiltrated part become infested by myriads of microzymes of a particular kind, so that the presence of these bodies is as much a part of the process as the emigration of the colourless corpuscles from the blood-vessels is a part of ordinary suppuration.

Further than this it is not possible to go, until the initial stages of the process, the early structural changes, have been investigated in the lower animals. For this investigation the field is open, and it is in the highest degree desirable, in the interests of humanity, that it should be undertaken. The material is abundant; what is required is that the highest pathological knowledge and anatomical skill should be employed in its investigation. If this is done, results of the greatest value may be confidently anticipated. We may hope thereby to acquire a knowledge of one more of those malignant

* *Münch*, Mycosis intestinalis und Milzbrand. Centralblatt, 1871, p. 803. Heusinger loc. cit., p. 597.

† *Wagner*, Ein Fall von tödtlichen Pilzkrankheit—Mycosis intestinalis. Leipzig, 1872.

processes by which acute disease destroys human as well as animal life, processes of which we may be perfectly certain that their danger is in proportion to our ignorance of their nature.

---

## Review.

A Text-Book of Veterinary Obstetrics: including the Diseases and Accidents incidental to Pregnancy and Parturition in the Domesticated Animals. By George Fleming, M.R.C.V.S., Royal Engineers. London: Baillière, Tindall, and Cox. Parts I. and II.

The development of veterinary medicine from the empirical position in which, for a very long period, it was placed by its connection with the farrier and cow-leech, will form at a future period a most interesting subject for the historian.

The progress of education generally, the use of the microscope in the study of minute anatomy and physiology, and the light derived by the investigations of chemistry and materia medica, in regard to the nature and employment of medicinal substances, have opened up an entirely new field of research for the observant pathologist. We therefore gladly welcome any contribution to our medical literature which tends to produce additional and valuable information, either in anatomy, physiology, or pathology.

Those members of the veterinary profession who remember the state of our educational establishments in the year 1833, and the means which the pupil had to adopt to enable him to acquire a knowledge of the above-mentioned subjects, are somewhat astonished at the marvellous change which has, since that period, taken place; for now the facilities for study, and the amount of information afforded by lectures, books, and hospital practice, will bear comparison with any schools in Europe.

There is, however, no doubt that both German and French veterinary surgeons have long taken the lead in veterinary literature, as their voluminous writings on every subject connected therewith prove. But *practically* we have the advantage, except perhaps in one instance,—and that is "Obstetrics."

It is a well-known fact that, in England, the veterinary surgeon is never called in to a case of parturition until either the cow-leech, herdsman, or the intelligent, active labourer, who is described "as a handy man to help the mare to foal or the cow to calve," have been employed. It is an unpleasant branch of our vocation; and few are tempted to to make it a part of their profession, as the emoluments derived from its efficient performance are not commensurate with the labour required. Nor was it until a recent period that it formed part of the curriculum of education, or that, except in a few English works and others in

French and German, there was any knowledge to be obtained from the experience of others.

We have been led into this train of thought from the perusal of a *little* work which has just made its appearance, entitled, "A Text-book of Veterinary Obstetrics: including the diseases and accidents incidental to pregnancy and parturition in the domesticated animals; by George Fleming, veterinary surgeon Royal Engineers, etc.," whose able pen is continually employed in promoting the advancement of veterinary science and the well-being of our profession.

From a careful consideration of the first and second parts of this work, I have no hesitation in saying that it will not only be a text-book, but a *complete manual* in all those divisions of "anatomy, physiology and pathology" relating to the processes of "generation, gestation, and parturition;" and in the respective subdivisions which are embraced therein, the veterinary practitioner, the student, and the breeder, will find a mass of information, conveying both accurate knowledge and instruction.

As a teacher, and one who, I suppose, will be called a member of the *old school*, I however protest against *new names*. The old ones, with their Greek and Latin derivation, form already a *pons asinorum* for the student; and anything like Eutokia and Dystokia only renders the subject more difficult.

I do not object to Hebrew derivation—for it is a language much older than the Greek: it is also a living language; the latter is dead. In the record of God's chosen people it is said, "And the king of Egypt spake to the Hebrew midwives, of which the name of one was Shiprah and the other Puah; and he said, When ye do the office of a midwife to the Hebrew women, and *see them* upon the stools;* if it be a son, then ye shall kill him; but if it be a daughter, then she shall live. But the midwives feared God, and did not as the king commanded them, but saved the men-children alive. And the king of Egypt called for the midwives and said unto them, Why have ye done this thing, and have saved the men-children alive? And the midwives said unto Pharaoh, Because the Hebrew women *are* not as the Egyptian women; for they *are* lively, and are delivered ere the midwives come in unto them." (Exodus i. 15-19.)

To a certain extent we are obliged to make use of Latin, and occasionally French and German; but I maintain that a good Saxon word, that conveys clearly your meaning, is beyond all others the most desirable to employ.

It is well expressed in the introduction of this book, "That the generation and development of animated creatures is correctly described as an eminently physiological act, and one which is ordinarily carried out from beginning to end as a *perfectly natural process*, and without any extraneous interference being required for its accomplishment."

This "physiological act" and "natural process" must form part of the

* A word of different meaning than "stand before"; and which would admit of the expression *called into*.

education of the veterinary student. It cannot, and it ought not to be separated from the knowledge of the general functions of the animal body. A knowledge of all the chief functions of the generative system is as essential to the scientific veterinary surgeon as that of any other organs. But he only will be the successful practitioner who adds to his knowledge "*a certain amount of mechanical skill, much patience and readiness in device; and for the larger animals, address, a fair amount of physical strength, and the advantages which long arms and fingers confer.*"

The first chapter of this book is most properly devoted to the construction of the pelvis—a very important part, in more respects than one; but which, in its connection with the act of parturition, is the key by which we are enabled to successfully obtain an entrance into the fortress.

"In its *true* anatomical proportions it *offers no obstruction to the expulsion of the fœtus;* but when, either from admixture of breeds or other circumstances, it becomes altered in form, narrowed in its channel, and restricted in space, it oftentimes offers an insurmountable obstacle to the accoucheur." We commend this chapter to the attentive study of the breeder, the veterinary surgeon, and the student; and especially Section IV., "On the capacity of the Pelvis;" for, although we do not concur, in all that the French writers have advanced on this subject, we quite agree with Mr. Fleming that "It is, nevertheless, useful to know the diameter of the pelvis of different animals, in order not only to fully understand the mechanism of parturition, but also with regard to the indications it may furnish in many cases of difficult parturition."

I remember, many years ago, having a conversation with a very intelligent farmer—an excellent judge of horned stock (but who could only write his own name), on their breeding and milking qualities; when, suddenly putting his hand to his head and taking off his hat, he said, "See here, sir,"—pointing to the ilium and ischium,—"I like to see these bones so that I could hang my hat on them. There is then room for the cow to calve; and it insures a good bag of milk."

His observation was correct. The measurement from one ilium to the other, and from one ischium to its fellow, will generally afford a correct index to the capacity of the interior.

The remarks in pages 20 and 21 in this section will afford to the reader Mr. Fleming's views on this important subject.

The practical value of pelvimetry depends on its application either by the breeder or the veterinary accoucheur: the former by his acquaintance with this subject to select a proper conformation in both male and female, the latter to enable him to *overcome, mechanically* or *otherwise*, the deviations that frequently occur from malformations; and it opens up a new field of research.

Passing from obstetrical anatomy to obstetrical physiology, we enter upon a portion of this work which, for minuteness of detail, correctness in description, and perspicuity of illustration, has never before been attempted in the annals of veterinary medicine in this country. To

attempt to select portions in confirmation of my statements is impossible. The work must be read and studied to acquire a notion of its excellencies. I can only say, for myself, that I trust its completion may realize the well-grounded expectations of its author.

THOMAS WALTON MAYER, *Professor.*
*Royal Agricultural College, Cirencester,*
*Oct. 6*, 1876.

---

# Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

## ROYAL COLLEGE OF VETERINARY SURGEONS.

### QUARTERLY MEETING OF COUNCIL, HELD OCTOBER 4TH, 1876.

*Present*—Col. Sir. F. Fitzwygram, the President, in the chair; Professors Pritchard, Walley, and Williams; Messrs. Balls, Broad, Cartwright, Collins, Dray, Field, Fleming, Gowing, Greaves, Harpley, Hunt, Moon, Naylor, Withers, Woodger, and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the last two special meetings were read and confirmed.

*Correspondence.*

Letters were received from Mr. Moore and Mr. Talbot regretting their inability to attend the meeting.

From Professor Williams, acknowledging receipt of three copies of the Education Scheme.

From Professor Walley, acknowledging the receipt of letter and copy of the alterations in the Bye-laws.

From Mr. Dyer, of Limerick, in reference to the use by unqualified practitioners of the title M.R.C.V.S.

From Mr. E. T. Coe, Aldeburgh, Suffolk, wishing to be informed whether Mr. Conard Baker had obtained the diploma of the College, and its date.

A reply was sent to the effect that, on the forwarding of the requisite fee, the information would be afforded.

Letter from Mr. Mackenzie, of Rochester, New York, asking whether a young man calling himself Edward Crundell, of Geneva, New York, was a member of the Royal College of Veterinary Surgeons, or whether he was personating a person deceased; also whether Professor Going, editor of the *New York Spirit of the Times*, was a member of the College.

A reply had been sent, asking for the necessary fees, previous to granting the information asked for.

Letter from Mr. Stanford Harrison, M.R.C.V.S., Hertford, wishing to be informed whether persons not members of the College were allowed to assume the title of veterinary surgeon, and if the Veterinary Department of the Privy Council approved of a person without a diploma holding the office of inspector in a case where a qualified man resided in the neighbourhood.

The Secretary was directed to reply that the appointment of inspector rested entirely with the magistrates of the district.

A letter was read from Mr. Dacre, the Honorary Secretary of the Lan-

cashire Veterinary Medical Society, inquiring how it was that a copy of the Supplemental Charter was refused to Mr. Hopkins, while it had been supplied to Mr. Taylor.

The SECRETARY replied that he had no authority from the Council to issue copies to any private individual member of the profession while the Charter was under the consideration of Her Majesty's Government. Mr. Taylor afterwards applied for a copy on behalf of the Lancashire Medical Society, and a copy was sent accordingly.

Mr. Dacre's letter also asked to be enlightened as to the legal position of veterinary surgeons, and the amount of fees they were entitled to on appearing in court; also whether they were classed as professional men.

The PRESIDENT stated that he had endeavoured to see Mr. Loch upon the subject, but he was out of town. He intended to take his advice as soon as he returned.

A letter was received from Dr. Dunsmure, containing a report of the examinations held in Scotland, dated 21st July, 1876.

A letter from Mr. Mayer, of Cirencester, wishing to be informed when the Christmas examinations would be held.

The SECRETARY suggested that it would be a great convenience if the examinations commenced at five in the afternoon instead of six, and was instructed to write to the medical examiners, to ascertain if such a change of hour would suit their convenience.

The obituary notice was read; and

The SECRETARY stated that, as the annually appointed Registrar under the Supplemental Charter, he had to ask the Council as to the desirability of a new form of Register being prepared, similar to the one adopted by the Royal College of Surgeons; and suggested that Mr. Collings, Mr. Fleming, and Mr. Cox should be appointed as a committee to take the matter into consideration, and report at the next meeting.

Agreed to.

The report of the Finance Committee and the Treasurer's report were read.

The report was received and adopted. Cheques were ordered to be drawn for the current expenses.

The report of the College Fund Committee stated that the sum of two guineas had been promised since the date of the last report. The balance at the bankers' amounted to £226 19s. 10d.

On the proposition of Mr. HARPLEY, seconded by Mr. DRAY, it was agreed that of the £226 standing at the bankers, £200 should be invested on behalf of the College Fund.

It was moved by Mr. FIELD, seconded by Mr. HUNT, and resolved, that the Christmas examinations should take place in the week prior to Christmas Day, provided that arrangement met with the view of Professor Simonds; and in the event of that period not suiting the professors at Camden Town, the President of the Council was requested to fix some other time.

### *Election of Fellows under the Supplemental Charter.*

The SECRETARY stated that under the Supplemental Charter the members of the profession to be eligible for election must have been fifteen years in practice. He found, on going through the Register, that 1016 members of the profession had that qualification.

The PRESIDENT explained that, at the late special meeting, it was proposed to appoint a committee to consider the claims of the different members of the profession for the rank of Fellow, and it was agreed to appoint Mr. Gowing and Mr. Harpley to represent the Army, and to write to the principals and

professors of each of the veterinary schools to ask them to nominate one member from their schools to serve upon the Committee. The letter had not yet been written, and consequently those members had not been appointed. It would probably be necessary, as soon as the Committee had reported, to have a special meeting of Council to consider the report, and to bring forward the whole subject for confirmation at the next quarterly meeting. They were limited to six months, and about six weeks of that time had already expired. Perhaps some gentleman present would wish to propose additional members to that Committee.

After some conversation on the subject, it was agreed that the following gentlemen should be added to the Committee :—

Messrs. Greaves, Mayer, Naylor, Cartledge and Broad (Bath), as representing England ; Professor Ferguson, Messrs. Paley, Lambert, and Malcolm, to represent Ireland ; and Messrs. Robertson, Robinson, and Macgillivray, to represent Scotland.

The following recommendations to the Committee were agreed to :—

1. That they be instructed to err on the side of refusing the honour rather than of diffusing it too liberally.

2. That the candidates should be selected for their scientific attainments rather than for the extent of their practice.

3. That not more than one hundred names be submitted to the Council ; and

4. That no gentleman engaged in any pursuit other than strictly professional, be brought forward for the consideration of the Council.

A sketch of the proposed diploma, drawn out by the Secretary, for the degree of Fellow, was submitted to the Council.

### *Presentation to Library.*

The SECRETARY announced that the second part of Mr. Fleming's work on "Veterinary Obstetrics" had been presented to the library.

On the motion of Mr. BROAD, seconded by Mr. DRAY, a vote of thanks was passed to Mr. Fleming for his presentation.

### *Bye-Law* 35.

Professor WILLIAMS moved that Bye-law 35 be rescinded—viz., "No student shall be allowed to present himself before either section of the Board of the Royal College of Veterinary Surgeons for his first or his second examination more than three times." This was a very unjust rule ; and the only argument brought forward in its favour was that it did away with a lot of lazy students who hang about the schools for a number of years. In reply to this, he considered that was a matter for the schools and not for the Royal College of Veterinary Surgeons. If the schools, by charging a single entrance fee, allowed students to remain for a number of years, that was a matter quite beyond the purview of the Royal College. It was exceedingly hard for a candidate to be debarred from entering the profession, because he had been rejected perhaps upon a subject which had very little bearing upon the profession itself. A candidate might be a very good practical veterinary surgeon, but still be unable to master botany or chemistry, which in reality had but little to do, in comparison with other subjects, with the subject-matter of his profession.

Mr. GREAVES seconded the proposition. He saw no reason why the Council should object to it, because now they received three guineas each time the student came up for examination, and therefore the greater number of times the greater the benefit to them. He also believed that injustice would be done to the students by the retention of this bye-law.

Mr. HARPLEY, as a member of the Committee which had occasion to deal with this question some time ago, said they came to the conclusion that no student should be allowed to come up more than three times, because it was found that when old students were hanging about the College, they more or less corrupted the young ones. Professor Simonds at that time stated that he himself was troubled to a very great extent with several students who had been at the school for a long time, and who were not making progress, but were retarding others. He took exception to Mr. Greaves' argument that the Council should not object to a student coming up repeatedly because he paid them for it. That was not what they should consider: the point was, whether it was a benefit to the Royal College of Veterinary Surgeons that they should accept a man who could not within three times pass the examination for his diploma. He believed that such a man was better out of the profession.

Mr. FIELD, Mr. COLLINS, and Mr. DRAY took a similar view.

Professor WILLIAMS said the fitness of a man for the profession, if he could not pass in three times, was not a question for the Royal College of Veterinary Surgeons at all. So long as they appointed examiners competent to examine students, they had the power to keep those men who never could be fit for the profession, as it was stated, out of it during their lifetime, if they considered it necessary.

Professor WALLEY said said no body of examiners would reject a man on his third appearance to pass his first examination, unless he were extremely bad. He believed the fact of the limit to three times acted as a stimulus to exertion, and induced students to do their best.

Mr. FLEMING thought no harm would be done to the profession if the bye-law was rescinded. There was no such restriction in the Royal College of Physicians or the Royal College of Surgeons, and it was very hard that a man should be debarred from a chance of entering the profession by hard work, merely because there were others who were idlers.

Mr. HARPLEY pointed out that in some instances the students presented themselves for examination at too short an interval, and therefore unwisely imperilled their chance of passing.

The PRESIDENT said that the difficulty would be met by one of the new bye-laws, now suspended, which provided that, in case of rejection, the Court of Examiners should specify what period of study was required by the student before he was allowed again to present himself for examination.

The resolution was then put to the Council, and was rejected by a majority of ten to six.

### *Unregistered Practitioners.*

Mr. FLEMING said, of all the subjects that came before the Council, the desirability of protecting the profession from the effects of imposture was the most important; and of all the grievances existing in the veterinary profession, there was not one which they, as a body, more acutely felt than that which he had to bring before them. When they endeavoured to obtain power to protect the profession in their Supplemental Charter, great complaints were made throughout the country that the clause which referred especially to that subject had to be struck out, simply because the power to inflict a punishment for the adoption of a title which did not belong to the person usurping it, could not be given in a Charter. Since then very bitter complaints had been made, that the Council had not the subject sufficiently at heart to push it on. He thought the time had now arrived when they should endeavour to protect the members of the profession by appealing to Parliament for power to sue persons usurping their titles without legal claims.

He did not propose to make a motion, but brought the matter before the Council, in order to show the profession that in this important question their interests were not neglected.

Mr. HARPLEY regretted that Mr. Fleming had not moved a resolution; and for this reason: that they must know, before they attempted to work in a scheme, what that scheme was to be. It was useless to ask Parliament for power which they knew beforehand would not be granted.

The PRESIDENT said, by way of a definite motion, he would propose "That a committee be appointed to apply to Parliament for a Protective Act; that the said committee be authorised to accept such terms of protection as the Government may be willing to give." It was not the slightest use to apply for a hard-and-fast Act of Parliament. Government respected most strongly the rights and privileges of Englishmen, and would never make an an Act retrospective.

Mr. DRAY seconded the motion.

Mr. FIELD thought the Council would be spending their labour in vain, and was opposed to any useless expenditure of the College funds.

Professor WALLEY thought if the proposal was brought before the profession generally, it would receive their hearty support.

Professor WILLIAMS considered the matter premature. There was a petition before the Duke of Richmond from the Highland Society, and it would be well to defer this discussion until an answer had been received to that petition.

The PRESIDENT said when a prospective law was proposed eleven years ago, it was the profession who would not have it. The Council was then willing to take a prospective Act, but the profession insisted on a retrospective Act, and that, he feared, could not be obtained.

Mr. HARPLEY moved, as an amendment, that the subject should be postponed till the next quarterly meeting.

Professor WALLEY seconded the amendment, which was agreed to *nem. dis.*

The PRESIDENT moved that Mr. Fleming be appointed a member of the the Scottish Section of the Court of Examiners, in the place of Mr. H. E. Wilkinson, of Newcastle-on-Tyne.

Mr. DRAY seconded the resolution, which was agreed to.

### *Government Aid.*

On the motion of Mr. FLEMING, seconded by Professor WILLIAMS, it was resolved—

"That the Royal College of Veterinary Surgeons appeal to the Government for support in obtaining a more suitable building for its meetings, and also for a pathological museum; and that this appeal be supported by a statement of the services which the profession has already rendered the country, and what it is willing to do, but which it cannot do for lack of means to carry it out;" also, "That a committee be appointed to draw up a memorial to the Government, with regard to assistance in providing a suitable house and a building for a museum."

The Committee was appointed: it consists of the President, Professors Simonds, Walley, Williams, and McCall; Messrs. Collins, Field, Fleming, and Harpley.

Mr. NAYLOR having presented some morbid specimens and a photograph of the same to the Museum, a vote of thanks was accorded to him by the Council.

The meeting having terminated,

The PRESIDENT gave notice of further proposed alterations in the Bye-laws, and that copies of the same be printed.

Also, "That notice be given to the Board of Examiners, that in consequence of the alterations made in the examinations, it will be necessary to elect a new Board prior to the July examination."

SPECIAL MEETING.

The PRESIDENT moved that the alterations made in Bye-laws 19 to 39 be confirmed.

Mr. DRAY seconded the resolution, which was agreed to.

The Bye-laws were then duly signed and sealed, in accordance with the provisions of the Charter.

The PRESIDENT moved that the new Education Scheme be now brought into effect.

Agreed to.

The Council then adjourned.

## MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE thirty-second meeting of the above Association was held at St. Mary's Hall, Coventry, on Tuesday, the 12th of September—the President, Mr. T. Greaves, Manchester, presiding. There were present—Colonel Sir Fred. Fitzwygram, Bart.; Messrs. Carless, Stafford; Pyatt, Nottingham; Hill, and Cartwright jun., Wolverhampton; H. M. Stanley, Birmingham; Ison, Atherstone; Blakeway, Stourbridge; Over, Rugby; Blunt, Lutterworth; Faulkner, Manchester; E. Stanley, Warwick; Hills, Leamington; Proctor, Coventry; Rose, Stratford-on-Avon; H. Goule, Malvern; Bailey, Leicester; Hutcheon, Liverpool; Jas. Freeman, Hull; M. Woods, Wigan; Gerrard, Market Deeping; Healey, R.H.A., Coventry; Webb, veterinary student; and the Secretary.

The minutes of the previous meeting having been read and confirmed,

Mr. BLAKEWAY proposed that a vote of condolence be passed to the widows and families of the deceased members—Messrs. Stanley, of Birmingham, and Pyatt, of Nottingham.

The proposition was unanimously carried.

*Election of Officers.*

The following were elected officers of the Association for the ensuing year:—

President, Mr. A. B. Proctor, Coventry.

Vice-Presidents { Mr. T. Greaves, Manchester. / Mr. M. H. Stanley, Birmingham. / Mr. G. H. Pyatt, Nottingham.

Treasurer, Mr. F. Blakeway, Stourbridge.

Hon. Secretary, Harry Olver, Tamworth (re-elected).

The following were then proposed, seconded, and unanimously elected members of the Association: viz., Messrs. Rose, Stratford-on-Avon; O. J. Hills, Leamington; E. Stanley, Warwick; Robert Cartwright, Wolverhampton; and Henry Goule, Malvern.

The PRESIDENT (Mr. Greaves), in calling on Colonel Sir F. Fitzwygram to read his paper on "Shoeing," wished that all veterinary surgeons had their profession as much at heart as the Colonel, and then these Associations would prosper and increase.

Sir FREDERICK, before commencing his essay, stated that, in treating the

subject of shoeing, he intended to speak only as to the proper method of shoeing healthy feet; for time would not permit of his in any way touching on pathological shoeing.

He then read a most interesting and able essay, describing in detail the anatomy and physiology of the horse's foot, and showing how and why different methods of shoeing, now commonly practised by the farrier, acted in an injurious manner on that organ. He contended that Nature's laws should be studied, and, as far as practicable, they should be carried out. He objected in the strongest terms to the use of the knife and rasp,—explaining why the frog was elastic, the sole thick, and the wall hard, and demonstrating that the removal of any of these parts was a source of weakness to the foot and of danger to the rider,—and summed up the whole by stating that the great secret of shoeing was to fit the shoe to the foot, and not the foot to the shoe.

A useful discussion followed, in which Messrs. Greaves, Blakeway, Hill, Gerrard, Carless, Proctor, E. Stanley, Freeman, Hutcheon, etc., took part. They, on the whole, agreed with the essayist, and thought there was but little to which they could object.

Messrs. BLAKEWAY and CARLESS highly approved of three-quarter shoes, and said that corns could be cured by their use.

Mr. HILL and others objected to Sir Frederick's mode of clenching the nails—they being of opinion that a nail could not be properly clenched without the rasp being used, to admit of the clench having a hold.

Mr. E. STANLEY thought that five nails were not enough to properly hold a shoe.

Sir FREDERICK, in reply, said that he also was highly pleased with three-quarter shoes, but preferred tips. As to clenching without the rasp, and with regard to the use of five nails only, he stated that both were in use in the Army, and with the best results.

The PRESIDENT, on rising to request Sir Frederick to address the meeting on the new scheme of Education and the new Charter, said that there was a difficulty respecting the apprenticeship clause: a previous Council thought it right; but, when it was tried, scarcely any students who had served the stipulated time presented themselves. He still believed in the clause, and thought that if proper notice were given, it might yet be carried, but not while the present Council was in office.

Sir FREDERICK, in responding to the President's call, said he thought he should best conform to their wishes by giving a *resumé* of the proceedings of the Council of the Royal College of Veterinary Surgeons for the last two years. The first item of interest was the obtaining of a Charter for itself by the London Veterinary College. No one could object to a school improving its status; but a clause was inserted which admitted of the school almost granting diplomas. This was most objectionable; and, on the representation of the Council, this clause was altered. But still things were not quite satisfactory, as he did not think any school should of itself be allowed to grant degrees independent of the Council. The discussions, however, had one good effect—viz., the cementing of a better feeling between the Governors of the Royal Veterinary College and the Council of the Royal College of Veterinary Surgeons. With regard to the new Charter, the old Charter, as far as it went, was a good one; but there were certain clauses in it which were considered grievances, and required amendment. Among them was the election of members of Council; for, as persons at a distance could not well attend the annual meeting, there was always an overplus of London members. This, however, could now be rectified, as every member could vote for whom he pleased without attending the meeting. The place of meeting was by some considered unfair; but, with the new Charter, a majority of votes had the

power of holding it in either Edinburgh or Dublin, as well as London. The conferring of a higher degree was a new clause, and no doubt a good one; as it would stimulate men to work themselves up in their profession, and so to benefit the public as well as themselves. With regard to the examination for the degree, it would not be of a schoolboy nature, but would be a test of a man's thoroughly practical ability, as well as his theoretical knowledge. Another clause was to give the Council power to summarily dismiss a member who misconducts himself; but this dismissal has to be confirmed at a special meeting. The penal clause, which is so much talked about, could not be inserted in a Charter. Having this information from the highest legal authorities, the Council, of course, were compelled to strike it out; it could only be obtained by Act of Parliament. This would be very expensive; and he thought it would be perfectly useless to ask Parliament to grant it until similar protection is conferred on the medical profession.

The new scheme of Education was then alluded to. Respecting the present examinations, Sir Frederick said he thought the conferring of higher degrees and honours on deserving students would be likely to be of great service, as it stimulated the schools to greater exertions to turn out men of better education and practical ability. He hoped to see the school curriculum extended to three years—the first two to be devoted more particularly to theory, and the last one to the practical part of the profession. As to the admission of medical men, he thought the agreement perfectly satisfactory by which medical men were admitted as second-year students; as they must necessarily have a good knowledge of chemistry, botany, physiology, etc. Foreign veterinary students would be admitted as third-year men, on condition that they previously passed the first and second examinations at our Boards; but they would be compelled to attend the third session at a school before taking the diploma. The next thing that he hoped to see was the attendance of at least some of the examiners at all the Boards, so that the examinations might be uniform. With regard to the Highland Agricultural Society's certificates, Sir Frederick could not see by what right an agricultural society sought to grant veterinary certificates. The old certificate of the above Society was not of much consequence, as it simply expressed an opinion; and he thought every endeavour should be made to prevent the Society obtaining the power which they were now trying for. Having been one of the deputation to the Duke of Richmond on the subject, he was of opinion that the Duke was decidedly averse to their obtaining it. In concluding, Sir Frederick said that the last two years, he considered, had been years of progress; the Council had not spared either time or trouble to try to advance the interests of the profession, and he hoped that the outside members would at least give them credit for doing everything with the best intentions.

In the discussion which followed, Mr. BLAKEWAY thought that the student who had served an apprenticeship should have some advantage given him, as there were many students who passed with high honours who were quite unfitted for practical work. The Charter he considered almost useless without the penal clause; and he asked Sir Frederick if the medical profession really had not some protection. He certainly thought they had.

Mr. HILL was decidedly of opinion that the medical profession had a protective clause, and gave instances of prosecution as a proof.

Mr. WOODS was also of that opinion.

Mr. HUTCHEON did not think that a compulsory apprenticeship clause was necessary—he being of opinion that a pupil could learn but little of his profession without anatomical and physiological knowledge.

Mr. GERRARD said the penal clause was the keystone of the whole structure, and would advise going to Parliament for it at once, if necessary. The profession, as well as the public, suffered for the want of it. The medical

profession were assisted by the Pharmaceutical Society. On the subject of a higher degree, Mr. Gerrard said that, properly speaking, a fellowship was not a degree, and he would have liked some other name. He objected to the election of first fellows; as he thought that all should be examined, or how did we know that they were competent to examine others? He considered the clause not admitting any as councillors but fellows a most selfish one.

In his reply to the discussion, Sir FREDERICK stated that the schools were entirely independent of the Council, so that they could not in any way regulate them. The difficulty in applying the apprenticeship clause to the College studies was to know what part of the curriculum the practical student could best dispense with. He certainly was of opinion that the medical profession had no protective clause. The best method of informing the public who were the qualified men of the district would be to advertise it in the local papers. If we were to have the penal clause, veterinary surgeons should use the great influence which they possessed in obtaining the assistance of their Parliamentary clients in their cause. In reply to Mr. Gerrard, he thought the old and respected members of the profession deserved consideration at the hands of the Council, and he would be sorry to see none but young men as fellows.

Mr. GREAVES proposed, and Mr. BLAKEWAY seconded, a most cordial vote of thanks to Sir Frederick for his able essay and subsequent address.

This was carried by acclamation.

Sir FREDERICK having replied, Mr. HILL proposed a vote of thanks to the President.

This having concluded the business of the meeting, the members adjourned to the Craven Arms Hotel for dinner.

HARRY OLVER, *Hon. Sec.*

N.B.—Sir Frederick, at the request of the Association, has consented to the publication of his essay at some future date.

## "THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY," MANCHESTER, 1876.

AT the last General Meeting of the above Society, held in Manchester on the 10th of March, 1875, a resolution was passed that an Annual Financial Balance-sheet should be recorded in the *Veterinarian* and in the *Veterinary Journal*. In obedience to such resolution, I beg to submit the following statement:—

THE VETERINARY MUTUAL DEFENCE SOCIETY.

*The Treasurer's Financial Statement*, 1876.

| CASH RECEIVED. | £ | s. | d. | CASH PAID. | £ | s. | d. |
|---|---|---|---|---|---|---|---|
| Balance of Account on March 1, 1875 (in Bank and in hand) ... ... | 645 | 2 | 4 | March 16—By Cash to Thos. Taylor ... ... | 7 | 13 | 1 |
| Subscriptions from Members from March 1, 1875, to Oct. 10, 1876 | 81 | 6 | 0 | Eighteen months' Stamps and Stationery ... | 2 | 7 | 10 |
| Three half-years' interest on the Defence Fund | 9 | 8 | 0 | March 16—Cash paid from this to the Benevolent Fund ... ... | 400 | 0 | 0 |
| | | | | Cash in Bank ... ... | 324 | 14 | 5 |
| | | | | Cash in Treasurer's hands | 1 | 1 | 0 |
| | £735 | 16 | 4 | | £735 | 16 | 4 |

Audited and found correct,

SAMUEL LOCKE, *for* THOS. TAYLOR.

THE NATIONAL VETERINARY BENEVOLENT SOCIETY.

*The Treasurer's Financial Statement*, 1876.

CASH RECEIVED.

| | £ | s. | d. |
|---|---|---|---|
| Balance of Account on March 1, 1875, in Bank | 419 | 8 | 2 |
| March 16—Cash for Defence Fund ... ... | 400 | 0 | 0 |
| Subscriptions from Members from March 1, 1875, to Oct. 10, 1876 | 11 | 2 | 0 |
| Three half-years' interest on Benevolent Fund | 22 | 12 | 1 |
| | £853 | 2 | 3 |

CASH PAID.

| | £ | s. | d. |
|---|---|---|---|
| Two sums, of £5 each, paid to Mrs. Brown's orphans ... ... | 10 | 0 | 0 |
| Stamps and Paper ... | 0 | 4 | 6 |
| Cash in Bank ... ... | 842 | 17 | 9 |
| | £853 | 2 | 3 |
| Amount owing at this date, Oct. 10, 1876 ... | £37 | 2 | 6 |

Audited and found correct,
SAMUEL LOCKE, *for* THOS. TAYLOR.

THOMAS GREAVES,
*Treasurer.*

*The List of Paid Subscriptions to the Veterinary Benevolent and Defence Funds from 10th March, 1875, to Oct. 10th, 1876.*

| MARCH 10TH, 1875. | £ | s. | d. |
|---|---|---|---|
| A. Rushall... ... ... | 1 | 1 | 0 |
| G. H. Darwell ... ... | 1 | 1 | 0 |
| Jas. Carter... ... ... | 0 | 10 | 6 |
| J. Howell ... ... ... | 2 | 2 | 0 |
| W. Broughton ... ... | 0 | 10 | 6 |
| J. L. Gibson ... ... | 2 | 2 | 0 |
| Jos. Woodger ... ... | 1 | 1 | 0 |
| T. Lambert ... ... | 1 | 1 | 0 |
| E. Nuttall ... ... ... | 0 | 10 | 6 |
| J. C. Broad ... ... | 1 | 1 | 0 |
| E. Woodger ... ... | 1 | 1 | 0 |
| A. C. Cope... ... ... | 2 | 2 | 0 |
| J. Smith ... ... ... | 1 | 1 | 0 |
| Thos. Cave ... ... | 1 | 1 | 0 |
| Moody Roberts ... ... | 1 | 1 | 0 |
| W. Dobie ... ... ... | 1 | 1 | 0 |
| W. Field ... ... ... | 1 | 1 | 0 |
| W. Helmore ... ... | 1 | 1 | 0 |
| B Cartledge ... ... | 0 | 10 | 6 |
| Stanley and Son ... ... | 1 | 1 | 0 |
| J. F. Day ... ... ... | 0 | 10 | 6 |
| 1876. | | | |
| John Carless ... ... | 1 | 1 | 0 |
| W. Carless... ... ... | 1 | 1 | 0 |
| E. Stanley... ... ... | 1 | 1 | 0 |
| J. H. Cartwright ... ... | 1 | 1 | 0 |
| J. W. Hill ... ... ... | 1 | 1 | 0 |
| G. H. Darwell ... ... | 1 | 1 | 0 |

| | £ | s. | d. |
|---|---|---|---|
| T. D. Lambert ... ... | 1 | 1 | 0 |
| T. Gregory ... ... | 0 | 10 | 0 |
| A. L. Gibson ... ... | 1 | 1 | 0 |
| F. Blakeway ... ... | 1 | 1 | 0 |
| Jas. Freeman ... ... | 0 | 10 | 6 |
| John Freeman ... ... | 0 | 10 | 6 |
| W. Field ... ... ... | 1 | 1 | 0 |
| Jas. Bale ... ... ... | 0 | 10 | 6 |
| S. H. Withers ... ... | 1 | 1 | 0 |
| J. Welsby ... ... ... | 1 | 1 | 0 |
| T. Walley ... ... ... | 0 | 10 | 6 |
| John Markham ... ... | 0 | 10 | 6 |
| E. W. Elam ... ... | 1 | 1 | 0 |
| R. W. Murdock ... ... | 1 | 1 | 0 |
| Hy. Pyatt ... ... ... | 1 | 1 | 0 |
| E. Nuttall ... ... ... | 0 | 10 | 6 |
| W. J. Anderson ... ... | 0 | 10 | 6 |
| J. B. Gregory ... ... | 0 | 10 | 6 |
| J. Malcolm ... ... | 0 | 10 | 6 |
| W. Woods ... ... | 0 | 10 | 6 |
| Thos. Taylor ... ... | 1 | 1 | 0 |
| Rd. Reynolds ... ... | 0 | 10 | 6 |
| D. Overend ... ... | 0 | 10 | 6 |
| W. Whittle ... ... | 1 | 1 | 0 |
| T. Proctor... ... ... | 1 | 1 | 0 |
| Jos. Freeman ... ... | 0 | 10 | 6 |
| F. Falding... ... ... | 0 | 10 | 6 |
| J. Cuthbert ... ... | 0 | 10 | 6 |
| W. Broughton ... ... | 0 | 10 | 6 |

| | £ | s. | d. |
|---|---|---|---|
| J. L. Faulkner ... ... | 1 | 1 | 0 |
| W. G. Schofield ... ... | 1 | 1 | 0 |
| Jas. Brooks ... ... | 0 | 10 | 6 |
| Jas. Moon ... ... ... | 1 | 1 | 0 |
| Gilbert Heyes ... ... | 1 | 1 | 0 |
| G. Newsome ... ... | 0 | 10 | 6 |
| J. J. Collins ... ... | 0 | 10 | 6 |
| J. A. Taylor ... ... | 1 | 1 | 0 |
| J. Storrar ... ... ... | 0 | 10 | 6 |
| W. Dobie ... ... ... | 1 | 1 | 0 |
| John Lawson ... ... | 1 | 1 | 0 |
| Edwin Faulkner ... ... | 1 | 1 | 0 |
| J. B. Taylor ... ... | 1 | 1 | 0 |
| Thos. Greaves ... ... | 1 | 1 | 0 |
| T. Hopkins ... ... | 1 | 1 | 0 |
| A. Rushall ... ... ... | 1 | 1 | 0 |
| T. Scruby ... ... ... | 0 | 10 | 6 |
| John Smith ... ... | 1 | 1 | 0 |
| James Martin ... ... | 2 | 2 | 0 |
| T. W. Wragg ... ... | 2 | 2 | 0 |
| W. Leather ... ... | 1 | 1 | 0 |
| Joseph Leather ... ... | 5 | 5 | 0 |
| F. G. Samson ... ... | 1 | 1 | 0 |
| Harry Olver ... ... | 1 | 1 | 0 |
| A. B. Proctor ... ... | 1 | 11 | 6 |
| Peter Taylor ... ... | 1 | 1 | 0 |
| Augustus Taylor ... ... | 1 | 1 | 0 |
| G. Morgan ... ... | 2 | 2 | 0 |
| R. H. Dyer ... ... | 1 | 1 | 0 |
| James Taylor ... ... | 2 | 2 | 0 |
| J. Welsby ... ... ... | 1 | 1 | 0 |
| J. C. Broad ... ... | 1 | 1 | 0 |
| E. Woodger ... ... | 1 | 1 | 0 |
| E. Meek ... ... ... | 1 | 1 | 0 |
| | £92 | 8 | 0 |

Audited and found correct,
SAMUEL LOCKE, *for* THOS. TAYLOR.

## UNITED STATES VETERINARY MEDICAL ASSOCIATION.

THE thirteenth annual meeting of the United States Veterinary Medical Association was held at the American Veterinary College, New York, on September 19th; the President, Professor A. Liautard, in the chair. At roll call the following members were present:—Messrs. Hopkins, Flagg, Thayer, Wood, Very, Lockhart, Lyman, Finlay, Burden, Budd, Meyers. *Visitors:* Professor McEachran, Montreal, Canada, and Mr. Duncan, Toronto. The Secretary read the minutes of the last meeting, which were adopted as read. Dr. Liautard reported that he had sent the fifty dollars which were voted by the Society towards the fund for the erection of a monument to Claude Bourgelat, to the proper authorities, the receipt of which had been acknowledged. A report was received and read from the Board of Censors, recommending the election to membership of the following gentlemen:—Williamson Bryden, Chelsea; Robert Laidlaw, Albany; Benjamin McInnes, Charleston; A. A. Holcomb, Plainfield; John Saunders, Boston; C. W. Crawley, Springfield; J. Corlies, Newark; L. V. Plageman, Brooklyn; L. McLean, Brooklyn; James Law, Ithaca; Colburn, Boston. These gentlemen were elected by acclamation. The following gentlemen were proposed for membership:—J. Meyers, sen., Cincinnati; E. Mints, Rochester; C. Mallory, Chelsea; F. C. Fogg, Boston. The next business was the election of officers for the ensuing year, which resulted in the re-election of the entire number of the preceding year.

Professor LIAUTARD proposed for honorary membership of the Society the following gentlemen:—Henri Bouley, Inspector General of the Veterinary Schools of France, Member of the Academy of Paris, etc.; and George Fleming, F.R.G.S., Veterinary Surgeon, Royal Engineers, and Editor of the *Veterinary Journal.*

It was voted that a journal to be called *The American Veterinary Review* be published by the Society; and Professor Liautard and Alexander Lockhart, M.R.C.V.S., were elected as editor and assistant-editor. It was decided

that, for the present, the journal should be published on the 1st of January and the 1st of July, and that its cost should be fifty cents. a number. The meeting was then adjourned to Philadelphi, to meet at the Continental Hotel. There, during a three days' convention, the following papers were read: "The History and Progress of Veterinary Surgery in the United States," by Professor Liautard; "Zymotic Diseases," by Professor James Law; "The Uses of Stimulants in the Treatment of Disease," by A. A. Holcomb; "The Causes of Chronic Lameness of the Foot in Horses," by Theo. S. Very; "Sanitary Measures," by Professor McEachran.

CHARLES P. LYMAN, *Secretary.*

---

## Notes and News.

TESTIMONIAL TO MR. HENRY PARADISE, M.R.C.V.S.—It will be in the recollection of our readers that at the Gloucester assizes in April, in a cause Prout *v.* Paradise, the defendant, Mr. Henry Paradise, veterinary surgeon, of Dursley, was mulcted in heavy damages, involving still heavier legal costs. A feeling prevailing that the weight of testimony was in Mr. Paradise's favour, and that the occasion was one calling for a practical expression of sympathy with him, a committee was formed, and at a meeting at Dursley on Tuesday, Mr. F. Burnett, of Kingscote, presiding, Mr. Paradise was presented with the sum of £198 11s. 6d., contributed by his friends in Gloucestershire. He received from the Lancashire Veterinary Medical Association an illuminated testimonial and a cheque for £31; and also a cheque for £5 from Mr. Greaves, V.S., of Manchester. The two last sums were unexpected and unsolicited.

A NEW HORSE DISEASE IN AMERICA.—A Chicago paper says that the horses of that city are just now suffering from a disorder which is puzzling the powerful minds of the veterinary profession. Apparently only those animals which were epizöotic patients have been attacked by this new disease. No one has been able to give a diagnosis of the disorder; but a West side horseman calls it "epizöotic scald," which describes its most salient peculiarity. The diseased beasts, whenever over-heated, exude a peculiar odorous perspiration, which scalds the hide and causes the hair to drop off, leaving a very tender sore in the flesh. One liveryman is of the opinion that the poisonous virus left from the epizoötic is carried to the surface by the unusual discharge of perspiration, and that external sores and excessive irritation are the results. It is estimated that several hundred horses are now temporarily laid up by this new and incomprehensible disorder.

DOGS IN LONDON.—According to the report on the Metropolitan Police for 1875, it appears that during the year 18,989 stray dogs were seized by the police, of which 1,736 were owned, and 17,198 sent to the Dogs' Home. On several occasions strong remonstrances have been addressed to the Commissioner on the damage arising from the presence of these stray dogs in the streets, especially during periods when an alarm of hydrophobia prevailed; and the police have done their best to get rid of these animals, most of them utterly worthless. The total number of stray dogs removed from the streets since the passing of the Metropolitan Streets Act, 1867, has been 92,886.

THE DOG TAX.—The net amount realized in the last financial year from the Dog Tax was £343,257.

IRISH AGRICULTURAL RETURNS.—The Irish agricultural returns have been issued, showing that the extent of land under all crops in Ireland this year was 5,206,053 acres, being a decrease of 126,760 acres compared with last year. The returns of live stock show an increase in the number of horses and mules of 8511, asses of 2259, of pigs of 172,087, and of poultry of 1,443,644; and a decrease in cattle of 1595, in sheep of 246,509, and in goats of 6,445.

THE MILK IN FOOT-AND-MOUTH DISEASE.—The condition of the milk of cows suffering from Foot-and-mouth disease appears to have been investigated at Cardiff by Mr. Thomas, and is alluded to by Dr. Payne, medical officer of health for that town. According to these examinations, it appears that in the first stage of the disease little or no difference is observed in this fluid, with the exception that small stellate particles of solid matter, evidently fat, are noticed. During the course of the disease these gradually increase in size, and more particularly if the milk has remained some time in the udder. When the mammæ, either from sympathy or from actual disease, are implicated, the milk becomes markedly acid, though the caseine is not coagulated, but is believed to exist in a modified form, and resists the action of strong acids for some time before coagulating. But if agitated while in this state, masses of fat rise to the surface, as much as an ounce or an ounce and a half being easily obtained from a pint of this infected milk. This is not noticed with healthy milk. When much diseased, the colour of this fluid is also altered, being yellowish-brown; the odour is strong, and the consistency very different from that of healthy milk. When water is added to newly-drawn milk, the masses of fat remain undissolved. Microscopically, the milk is extremely rich in globules and epithelium; but apparently the most marked and constant indication of the disease is the tendency the fat globules have to aggregate in masses; when their shape changes to oval, hexagonal and broken-down forms—the masses being often so dense as to present a black appearance under the microscope.

HOG PENS AND HOG CHOLERA.—The weight of testimony regarding "hog cholera," or intestinal fever, as it might be more properly called, goes to show, says an American paper, that it results either from a variety of circumstances, all of which, however, can be classed under the one distinguishing head of *neglect* or violation of proper sanitary conditions, or else it is due to contagion or infection from diseased herds. This seems to be well founded; and if so, the remedy is a simple, although not an easy one. To change the whole manner of keeping swine, and to avoid the danger of infection from the herds of those farmers who never read and never learn anything, is no easy matter, however easy it may be to say that it must be done. Much may be done by example; and if those who can adopt healthful methods of herding their swine, avoiding damp, filth, crowding in the pens, and insuring cleanliness in the feed and water, and isolate their herds, will use these precautions, we do not doubt that the plague will be stayed. The first precautions should be to provide roomy, dry, clean, airy pens, supplied with clean water, and kept in a wholesome condition. It is not the influence of locality, but the better methods of herding that keeps the Eastern States free from this pest.

A PROLIFIC SOW.—The *Oswestry Advertiser* of September 13, 1876, states that Mr. S. Jones, of Broadstone, Shropshire, owns a sow of the small Berkshire breed that has littered three times within the last twelve months, and has produced the large number of forty-nine pigs, which are doing well. The last litter numbered seventeen handsome pigs.

AMERICAN PORK.—In America there are so-called "pork districts"; and the "pork crop" is chronicled in the papers with the same praiseworthy accuracy as the corn crop. Trichinosis, however, is just now prevalent in the pork districts. Dr. Sutton and Son, of Dearborn Co., Indiana, practising physicians, were led in 1874, by peculiar sickness and death of patients, to investigate by *post-mortem* and otherwise—the results of which have been published in a report to the Medical Society of that State. Portions of the meat which had been eaten by the sufferers contained over 80,000 trichinæ to the cubic inch, and in the muscles of the deceased they were detected even in greater numbers. From microscopical examinations of the pork brought to the office of the physicians during the year, they estimated that six per cent. of the hogs of the country are affected by this parasite, and capable of producing the loathsome disease Trichinosis. The total number of hogs packed in the West during the winter of 1874 was 5,537,124, exclusive of those killed by butchers and farmers. If six per cent. of these hogs were affected with trichinæ, says the *Toronto Weekly Globe*, we have 332,227, and at the average of 200 lbs. to the hog, 66,000,000 lbs. of diseased meat put upon the market, and every ounce capable of producing Trichinosis. Dr. Sutton says "that ninety per cent. of disease produced from eating trichinous pork appears either as Gastro-enteritis or as Diarrhœa or Dysentery, and not more than ten per cent. as the fully developed form of Trichinosis;" consequently thousands suffer from these irritations and bowel complaints, which are ascribed to everything but the right cause. Americans should turn Jews and strike pork out of the list of eatables after this.

We observe that the Washington Bureau of Statistics has published figures, collected by the Cincinnati Chamber of Commerce, showing the growth of the pork-packing trade of the Western States since 1849, a period of twenty-seven years. The business is done almost entirely between November 1 and March 1. In the season of 1875-6 the entire number of hogs packed was 4,850,192. Of that number Illinois packed 1,913,895, Ohio 822,935, Missouri 555,319, Indiana 568,367. Since 1849 the hog-packing trade has increased more than threefold. The gross weight of last season's packing was 1,332,215,076 lbs., and the aggregate cost of the hogs $93,422,543. The yield of lard from the operations of last season was 174,803,333 lbs. In the whole twenty-seven years the aggregate number of hogs packed in the Western States was 79,992,062. The returns of the trade for the past six years show that a fair average weight for hogs is 270 lbs. This would make the aggregate weight of the pork packed in the past twenty-seven years 21.597,856,740 lbs. The estimated cost of the hogs is $1,166,284,262. The yield of lard in the same period was 2,879,714,232 lbs. Chicago is the principal point of the pork-packing trade. Last season there were packed at Chicago 1,592,065 hogs, or more than one-fourth of the entire number packed.

---

## Army Veterinary Department.

*Gazette*, October 3rd.

YEOMANRY CAVALRY. Lanarkshire (Queen's Own Royal Glasgow and Lower Ward of Lanarkshire).—W. Cockburn, gent., to be Acting Veterinary Surgeon.

We regret to learn that Veterinary-Surg. T. Paton, who recently exchanged from the Army Service Corps to the 4th Hussars in India, is about to be invalided home, owing to illness which, it is rumoured, may necessitate his being placed upon half-pay.

Veterinary-Surg. G. D. Whitfield, 11th Brigade, Royal Artillery, has leave from India to appear in England before a medical board.

It gives us much pleasure to announce that Veterinary-Surg. Hallen, General Superintendent of Horse-breeding operations in India, is about to be (or has already been) selected to fill the important and responsible post of Remount Agent to the Indian Army—a post rendered vacant by the decease of Mr. Thacker. It was at one time supposed that an officer of the Royal Artillery—not a veterinary surgeon—would be chosen; but we are glad that the decision, if it ever was made, has been altered. The selection of horses for the various requirements of an army should always be a duty entrusted to competent veterinary surgeons, whose professional education and experience should eminently qualify them for such a task. One better qualified for this office than Mr. Hallen could scarcely be found.

In our obituary notice of Mr. Thacker, in the last number of the *Veterinary Journal*, we made mention of the present Principal Veterinary Surgeon. Of course we meant Mr. F. F. Collins, Acting Principal Veterinary Surgeon in India.

Considerable discontent, says the *Indian Pioneer*, prevails amongst the Staff Veterinary Surgeons in that country, in consequence of the very uncertain positions they occupy regarding the length of their tour of service in India. It appears that the first batch of these officers arrived in India in 1873, and were not gazetted to corps, but put to do duty much in the same way as the officers of the medical staff. It is stated by these officers that the Principal Veterinary Surgeon, at that time Mr. Wilkinson, promised them orally that their tour in India would not exceed five years, and that they would then be relieved, and get a turn of home service, and that definite regulations were about to appear on the subject. Trusting to this, several officers volunteered, but nothing has been officially done as yet to settle the length of their tour in this country; and it is supposed either that the Principal Veterinary Surgeon postponed the matter, with the intention of settling it before the expiration of the five years, or else the authorities refused to sanction the arrangement. Mr. Wilkinson has died since these officers embarked, and cannot now be appealed to on the subject; but it is to be hoped a speedy settlement of the question may be made. It is decidedly inexpedient to compel officers to serve in any capacity against their will; and if, as there is little reason to doubt, these Staff Veterinary Surgeons accepted service in India on the faith of a verbal promise, that promise should be kept by the authorities. Five years is the recognised length of tour for officers of the Medical Staff, and we should think the Veterinary Department ought to be on the same footing.

---

## Obituary.

THE death is reported of W. E. McCracken, Whithom, Wigtonshire, who graduated so recently as April 16, 1875; as also that of G. W. Watson, of Orphir, Orkney, a yet later graduate, as he only received his diploma last April.

The demise is also notified of Mr. T. Barrell, of Keynsham, who graduated August 12, 1846.

---

# Correspondence, etc.

## REMARKABLE OCCURRENCE.

*To the Editor of the* VETERINARY JOURNAL.

DEAR SIR,—A short time ago some men of the Native Infantry Regiment, stationed here, went out shooting; and in the course of the day came upon an antelope doe, which they immediately shot *dead*, and carried home. On opening the animal for the purpose of preparing it for the pot, they released a strong healthy youngster from the uterus, washed it, and induced it to suck milk from a bottle. This little fellow is still living and thriving well under the care of the bandmaster of the regiment, by whom the above was related to me. Now the peculiarity of the case is this—that the time from when the mother was shot until the young one was released could not possibly have been less than twenty-five minutes. I have taken every care to verify the story, and can find not the least exaggeration in it. I therefore send it to you, in the hope that it may prove interesting to some of the readers of the *Veterinary Journal.*

I am, dear sir, yours sincerely,

HENRY THOMPSON, V.S. Vet. Staff.

Cawnpore, *September 13th*, 1876.

---

## PROUT *v.* PARADISE.*

*To the Editor of the* VETERINARY JOURNAL.

DEAR SIR,—As Secretary of a fund raised by the members of the Lancashire Veterinary Medical Association, and a few of their professional friends, I beg to submit the following for insertion in your valuable journal.

At a meeting of the Lancashire Veterinary Medical Association, held at the Blackfriars Hotel here, on July 19, 1876, the above was brought forward in discussion. The whole of the members present thought it their duty to assist Mr. Paradise in defraying the expenses which he had been put to by what they considered unjust treatment, and expressed at the same time their great sympathy for him relative to the above case. I am pleased to say the subscriptions amounted to the sum of thirty pounds, which, with a suitable testimonial, I had much pleasure in forwarding to Mr. Paradise—who replied as follows :—

"Dursley, Gloucestershire, *September 9th*, 1876.

"My dear Sir,—Pray assure all the kind subscribers to the handsome testimonial, and the very substantial present that accompanied it, that I regard their sympathy with more than ordinary gratitude, because it was so unexpected; and as a perfect stranger, I had no right to anticipate it. It has been a great source of gratification to me to have the good wishes and practical sympathy of friends around me; but when strangers send me such proof of kindly feeling as the members of the Lancashire Veterinary Medical Association have done, I must confess I feel at a loss in what manner to express my gratitude to them, and can only say I can never forget their kindness. I thank you, especially, for the trouble you have personally taken in the matter.

"I remain, dear sir, yours gratefully and faithfully,

"HENRY PARADISE, V.S.

"To Mr. S. Locke."

Trusting that I have not trespassed too much on the space of your valuable journal, and hoping that other veterinary associations will, with the assist-

* See also "Notes and News."—ED. *V. J.*

ance of Mr. Broad, of Bath (who I am pleased to see has taken such interest in this case), be the means of realizing the full amount of Mr. Paradise's expenses, so that we may show how practical veterinary surgeons can help one another when they consider it their duty to do so—in a case which I need not tell your readers has been so well ventilated in your journal. I enclose you copy of testimonial.

I beg to remain, dear sir, yours very truly,

SAMUEL LOCKE, V.S.

Grosvenor St., Manchester, *September*, 1876.

*Testimonial to* HENRY PARADISE, ESQ., M.R.C.V.S.

DEAR SIR,—We, the members of the Lancashire Veterinary Medical Society, and a few of our professional friends, beg to record our sympathy with you in what appears to us the unjust verdict given in the case Prout *v.* yourself—and as a further proof of our sympathy, beg your acceptance of this testimonial, together with the sum of £31, subscribed by the gentlemen whose names are appended :—

John Lawson, Manchester.
Thomas Taylor „
W. A. Taylor „
T. Hopkins „
M. J. Roberts „
T. A. Taylor „
A. Lawson „
— Faulkner „
Samuel Locke „
James Haslam „
T. A. Dollar, London.
C. Elam, Liverpool.
A. Challinor, Bolton.
W. Dacre, Altrincham.
W. C. Challinor, Worsley.
— Whittle „
— Ferguson, Warrington.
W. A. Cartwright, Whitchurch.
W. Wood, Wigan.
J. Bunce, Oldham.
C. E. Challinor, Pendlebury.
J. B. Taylor, Ashton.
C. Simpson, Manchester.
A. Prescott, Pendleton.
G. H. Darwell, Northwich.
B. Bowker, Farnworth.
James Howell, Rochdale.
James Lomas, Stockport.
C. Ogden, Sale.
— Mollyneux, Bolton.
— Storer, Chester.
R. Reynolds, Liverpool.

## HORSE CAUSES.

*To the Editor of the* VETERINARY JOURNAL.

SIR,—It is not my wish or desire to rush into print to hold forth to the profession the advantages accruing to a member of the Veterinary Mutual Defence Society ; much less my intention to dictate to any one the course he should pursue when pressed by an apparent unjust claim of an exacting client.

We are living in a land where every man has a just right to his opinion, as long as he observes the laws and conventionalities of his country. Therefore your correspondent "Boaz" will understand that in the following remarks, although he may not agree with them, it will be my simple endeavour to place before your readers, in as concise a manner as possible, the objects of the Defence Society.

This I do in the capacity of President of the Society ; and because I fear "Boaz's" remarks may tend to deter vacillating members of the profession from joining a Society which, in cases of unjust claims made by a client against any of its members, possesses the materials to aid him in his defence.

I feel confident that "Boaz" is labouring under a wrong impression as to the objects of the Defence Society ; therefore I have much pleasure in presenting him, through you, Mr. Editor, with a copy of the Society's rules and regulations.

It would perhaps not be out of place—indeed, I consider it only fair to the Society—to reproduce here a copy of the preamble to the Society's Rules, etc. It sets forth as follows :—

"In consequence of many vexatious and unjustifiable actions at law having been threatened, and sometimes instituted, against veterinary surgeons for alleged depreciation in the value of horses and other animals, consequent upon professional treatment during illness ; and because it has been repeatedly sought on the part of the public to make the members of the veterinary profession not only responsible for their opinions (fairly and honestly expressed in the discharge of their duty), but also to hold them responsible for accidents resulting from shoeing and from other necessary operations ; and considering that the veterinary profession has hitherto been without a fund from which its members might be assisted in their defence against such vexatious and unjust lawsuits—and seeing also that there is no fund from which assistance might be afforded to such of its members, their widows or orphans, as after proper inquiry might prove to be deserving objects of professional benevolence—it is considered advisable that a Society, having these joint objects in view, should be immediately formed ; and the said Society is hereby incorporated under the name of the 'National Veterinary Benevolent and Mutual Defence Society.'"

The above description illustrates the objects had in view when the Society was formed, eleven years ago. I may state that it has been, and now is, in a flourishing condition ; and notwithstanding the opinion expressed by our friend "Boaz" that Mr. Greaves' letter was "calculated to repel rather than attract," numerous letters have been received since the appearance of Mr. Greaves' communication, seeking information respecting the Society, and some soliciting membership.

I feel sure "Boaz" must know Mr. Greaves sufficiently well—even admitting any confliction in portions of his letter—to be aware that he would not knowingly inflict pain upon any one in a similar position to Mr. Paradise ; and if, in his zeal for the welfare of a professional brother, he has erred, it can only be attributed to his earnestness of purpose—as in making the remarks he did he was not actuated by any selfish motives, the offices of the Society being honorary. We trust that, after perusal of the Rules, etc., "Boaz" will discard his *nom de plume*, and add his name to the roll of members of the Veterinary Benevolent and Mutual Defence Society.

Believe me, Mr. Editor,
Faithfully yours,
PETER TAYLOR.

P.S.—The Society now numbers ninety-five members.

---

## RANDOM JOTTINGS ON CURRENT TOPICS.

*To the Editor of the* VETERINARY JOURNAL.

SIR,—In a well-worn metaphor, a parallel is often drawn between the life of man and the metamorphosis of the caterpillar into the butterfly ; but the comparison may be equally just, although perhaps a little novel, should we apply it to the present metamorphosis of the profession.

It would seem, then, that it has grown too large—part of it at least—for its theoretical coverings, and is about to burst them asunder, to appear in new habiliments ; as the feeding and growing grub at intervals casts its too narrow skin and assumes another of a temporary kind.

It is somewhat difficult to discover what stage of the metamorphic process we are in—whether the *larva* or *pupa ;* but it is certain the *imago* stage is

not reached, and judging from some recent utterances and occurrences, it seems wofully distant.

Every moult, however, is a step gained, and if the process is not arrested by the freezing blasts of selfishness and intrigue, the perfect state may ultimately be attained. The stage gives evidence that we are in an evolutionary state, for the doctrine of Evolution leads to that of Human Automatism, which depends altogether on the arrangement of the molecules of ordinary matter.

To descend from metaphor, however, I may remark, in the first place, that the process of moulting about to take place in a number of our members, partakes too much of an automatic character. There is really and truly no power outside themselves to be invoked to effectuate the change. That a number of men of common-sense and cultivated intellects should proceed to assume a new title or degree in a learned profession, without any but themselves being asked to adjudicate upon their respective merits, is rather unprecedented, and scarcely in keeping with the tendency of the age—viz., "the survival and advancement of the fittest" of all species.

Had no such power existed by which such an important transition could have been effected, they might have been warranted in establishing a precedent and pursuing such a course. True, they have secured the legal power to do so, but the Lords of Council do not nominate the first "fellows"; indeed, the members are to be the sole judges of their own eligibility.

One can easily understand and even tolerate the little bit of *hocus-pocus* which Royalty practises, when it calls into its presence a loyal, devoted, and worthy subject, and tells him to rise up and depart "Sir Somebody." But that a number of men should ask the Lords of Council to grant them power to create themselves "fellows" of a liberal and learned profession, is a proceeding unprecedented and undignifying to that profession; indeed, I think, it is unworthy of the name of Fleming, of Fitzwygram, of a Field or a Greaves, to initiate or carry out such a compact. It seems to prove that the best of men are but men at the best.

It may seem somewhat invidious in me to find fault with frail fellow-mortals for doing a bit of public whitewashing on the principle of reciprocity; but in plain language, it amounts to little else; and the question arises—Is the public or any other profession prepared to homologate such proceedings?

That the public are not prepared for such action, is abundantly manifest from recent proceedings and public utterances in the matter of the diseases of cattle and the ability of the profession to cope with them, either in regard to their nature, cure, or prevention.

Is it not a humiliating fact that the Royal Agricultural Society has instituted an inquiry into the nature, etc., of the disease known as Pleuro-pneumonia, and entrusted the conduct of that inquiry to a medical man? And it is also to be regretted that the Veterinary Department of the Privy Council is presided over by an M.D.; and when Great Britain sends a representative to any Continental Veterinary Congress, she seems to have most faith in some hireling medical graduate.

It is not quite a year ago since the same Society, in negotiating terms with the Royal Veterinary College, said that it regarded the annual grant of £200 to that institution "as so much money thrown out at the window," and refused to continue it; and further, it employed an eminent pathologist of the medical profession as consulting physician, with a veterinary surgeon as a kind of "*Man Friday*" to him.

These facts, and others of a similar kind which I need not particularise, are most damaging to the profession, and show conclusively that neither the public nor the medical profession have a very high opinion of it, or that we are at all competent to be trusted with such matters.

From these remarks, I do not wish it to be inferred that I do not think

there are men in the profession capable of undertaking any or all of these duties, or that it is premature to institute a higher degree. On the contrary, I believe that any of the functions of the profession at present undertaken by medical graduates could be carried on and brought to as satisfactory conclusions as any that need be expected from those at present intrusted with them; and that it is necessary and expedient to institute a higher qualification, to mark the very great disparity which exists among the members of the body corporate, not only for their own gratification, but for the good of the public.

What I do find fault with—and what I think these facts warrant me in finding fault with—is the automatism of the machinery whereby the first Fellows are to be created, and who, in short, are to create themselves.

Had the Queen, Lords, and Commons, been pleased, of their own goodwill, and for some signal services rendered by the profession to the state, to institute a higher degree, and nominate a few of the most worthy members as eligible for promotion, then we should have—as was meet—received it with shouts of triumph and joy. But that they should proceed to claim the degree, simply because they happen to be members of Council, and possess the servitude qualification—and that too on no ground basis, or stipulations, but that of their own conceptions—indicates a consciousness in their own powers and superiority that neither the public nor the profession will be inclined to accord to them, and is scarcely consistent with the ideas generally entertained by cultivated minds of large calibre.

Indeed, the Council has treated the profession very cavalierly in all these proceedings; for they never even asked their opinion in the matter. True, we had an opportunity of expressing an opinion on the subject at the annual meeting; but the Charter was "cut and dry" before then, and any expressions of opinion made previous to that time were put under the table in silence. The Liverpool representation, at least, shared that fate.

Why should not the first fellows satisfy some improvised board of examiners as to their knowledge of languages, mathematics, etc., or what goes to constitute a liberal education as sketched out by yourself? If they know these things, what are they afraid of? If they don't know them, what right have they to it? or how are they to sit in judgment on those who may have the "ambition" to submit to the requirements of the examination they are to subject them to? It seems like trying to "bind burdens on other people's shoulders that ye refuse to touch yourselves with one of your fingers." There are no greater tyrants of examiners than half-informed men.

Might not the profession have been consulted in the election of first Fellows, in the shape of a plébiscite for the ten best members, who would then have a further power of selection? If they are to be entrusted with the filling-up of voting-papers for future councillors—which, by the way, is about the only liberal clause in the Charter—surely they might have been depended upon to say who, of all the great men in the profession, were most worthy to be advanced to the *sublime* degree. Such a course would, at least, divest the proceedings of that repulsive automatic and autocratic character which must otherwise attach to them.

I must hasten on to notice the next, and probably most important, topic—the Penal Clause, or rather the want of such a clause in the new Charter. I trust by this time the Councillors are convinced that this is a serious defect in the Charter. I am sure the great majority of the members are; and if the profession could be polled to-morrow, three-fourths of them would say so. This want has been the principal grievance ever since the profession was incorporated; and it is rather disappointing to find that it is still unsupplied—more especially when we thought it was almost within our grasp.

If no such clause can be obtained by Charter, why waste time and money

in procuring such an instrument, more especially when it is the desire of the profession that a penal clause should be obtained? We should have been far more likely to have carried an Act of Parliament containing such a clause, if this wretched Charter had not been attempted; and, judging from the passing of the "Drugging of Animals Act" this last session, it is not at all unlikely but that an Act with such a clause in it could be obtained even now.

The reasons against having such a clause are numerous and varied; but it is sufficient to refute them by merely stating them.

First, as to the education argument, if it can be so called. The advocates of this theory proceed upon the assumption that by raising the standard of preliminary as well as professional education, they will put down, and prevent from rising up, all unqualified practitioners. Unfortunately, facts are against this theory.

It is a well-known fact that quacks are as rife around our colleges as in country districts, although the professors may not come in contact with them so much as country practitioners. And their names are legion in the medical profession, and who will be bold enough to say that medical men are under-educated? Only on the 2nd of December last, a large and influential meeting of medical practitioners was held in the rooms of the Medical Society of London, Chandos Street, Cavendish Square, Dr. B. W. Richardson, F.R.S., in the chair, under the auspices of the "British Medical Defence Association."

In opening the meeting, the chairman said that "at no former time, he believed, had there been so much quackery as at present. The advance of science seemed to give to evil-disposed men weapons which they could not use. The desire of the public for literature fostered quack literature of the worst kind, and the increased power of the Press advertised quackery the more; and even the Medical Act appeared to suggest the protection of quacks through registered men." The object of the Association he stated to be "the suppression of unqualified practice, quack medicines, indecent publications, bogus diplomas, and improper alliances of qualified and unqualified men; and further, to protect medical men from vexatious prosecutions."

The secretary, Mr. George Brown, in his report stated that "the Society numbered over 150 members; one branch of the Association in the East End of London, through the energy of Dr. Carpenter, had successfully conducted three prosecutions of illegal practitioners, having recovered a penalty of £20 in each instance."

This is surely a sufficient answer to those of our profession who assert that "the legislature has not given power to the medical profession to prosecute pretenders." These prosecutions were carried out under the Apothecaries Act of 1815, as the Medical Act of 1858 only contemplates the prevention of the use of false titles—which is all the veterinary profession require, and I am convinced would be contented with.

On the whole, it seems to me that this educational argument is quite untenable, and proceedings founded upon it are likely to be productive of more quackery, unless the people be educated as well. Even supposing all the professors and assistant-professors were sent to practise on their own account, I question very much if they would succeed in putting down one quack, notwithstanding their accomplishments; and I am sure some of them would cut a poor figure in a crewe-yard, as they sometimes do on practical questions in the witness-box.

I have yet to learn that the practice of the science at any of our colleges is at all superior to that of many private establishments. If they would publish their *clinique*, or their important cases, as was done formerly, then we should be able to judge; but if they have any advantages from superior education

and opportunities, they very carefully keep them secret, and the inference is that they have nothing to conceal.

The extension of the period of study to six sessions will, I think, be likely to foster and extend illegal practice; for it will assuredly prevent a number of good men of limited means, who may have served an apprenticeship, or otherwise seen practice, ever attending college at all; but if they knew that they would be liable to be proceeded against if they did not take out their degree, they would hesitate before they commenced without it.

The classically-educated veterinary surgeon has not hitherto been the most successful practitioner; and, owing to the very nature of the business, it is not at all likely that he ever will. I do not underrate the importance of education, however; my contention is it will not put down quackery. We want an Act similar to the one of 1864, which somehow or other seems to have been strangled in its birth.

The legislature has recently made it penal for men to sell poisonous drugs, without being licensed to do so by a society constituted for the purpose of examining men in their knowledge of such things. With what consistency could it abstain from forbidding ignorant men, under the guise of veterinary surgeons, from dispensing poisonous drugs, when it has lately prohibited grooms and carters from doing so? This would be to permit a greater evil while prohibiting a lesser one.

Nor am I sanguine enough to believe that quackery would altogether disappear, even supposing such an Act to be procured. But whether it might do so or not, as a matter of right and justice we are certainly entitled to some protection to the title we work so hard and pay so dearly for; or what is the use of undergoing the ordeal of examination to receive a degree which any one can assume with impunity?

Almost every country, except our own, possesses laws which are more or less stringent against veterinary empiricism. In France it is illegal for any one not having obtained a diploma to assume the name of veterinary surgeon. In Belgium a law (passed in 1850) prohibits any one from practising the veterinary art who has not a diploma. In Holland a similar law is in force; and in nearly all the continental countries similar enactments obtain. Why should British veterinary surgeons be unprotected, any more than her medical graduates, and all the practitioners in other countries? So long, however, as the present opinions prevail at the Council Board, so long shall we have to remain *in statu quo.*

The late trial of Prout *v.* Paradise should help to open our eyes to the necessity of such an Act, and define our position in the eye of the law. Had Paradise been without a diploma, Prout would have had no case; for then the law says "*caveat emptor.*" But Mr. Paradise having the imprimatur of the College, in the shape of its diploma, the law holds him responsible when the jury declares him guilty. Not so the quack: the law supposes that he cannot know, and says to the complainant, "Take care what you buy, or whom you employ;" so that we are in a worse position than the quack, for it exonerates him for his ignorance, while it punishes us for our knowledge. Surely, then, we are entitled to an Act to warn these pretenders off our province.

In no class of cases does the quack do so much damage to the professional man as in parturition cases; either by meddlesome interference in complicating them, or by invoking the tongue of calumny when the case goes wrong.

I am glad to find that there is a small ray of light breaking in upon the gloom, in the shape of your attempt to bring the matter before the Council.

I do hope and trust you will have the assistance of Councillor Greaves, if no more; and, further, that he will deem it to be his duty to bring the force

of his Artillery to bear on the minds of the legal and jury men of Gloucester to obtain a reversal of the verdict recorded in the above case; so that we may yet be enabled to chant the grand old epic—not the sad and sombre one of "Paradise Lost," but the bright and cheerful one of Paradise *Re*-gained!

I am afraid I must stop for the present, or I should soon monopolize all your correspondents' columns. There are several other topics I could have wished to make a few jottings on, but must reserve them for another opportunity.

Meantime I remain, faithfully yours,

JOHN GERRARD.

Market Deeping, *October 14th*, 1876.

---

ANSWERS TO CORRESPONDENTS.

F.S.B.—There is no Royal College of Veterinary Surgeons in Edinburgh, there being only one Royal College for the three kingdoms. The person you allude to is not a member of that College.

WE regret we could not find space in the current number of the *Veterinary Journal* for the communications from Professors Walley and Maver, and Messrs. Thayer, Macgillivray, Lyman, Poyser, W. A. Cox, Howard, Poulton, and "A Veterinary Student." We shall endeavour to insert them in our next.

## Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from S. Locke, Manchester; Professor Mayer, Cirencester; R. Poyser, The Carabineers; H. Thomson, Veterinary Staff, Cawnpore; "A Veterinary Student," Royal Veterinary College, Berlin; W. A. Cox, Ardwick, Manchester; P. Taylor, Manchester; T. Greaves, Manchester; J. W. Hill, Wolverhampton; R. G. Waters, Newport; J. Gerrard, Market Deeping; W. H. Coates, London; C. P. Lyman, Springfield, Massachusetts, U.S.A.; A. E. Macgillivray, Banff; E. F. Thayer, Massachusetts, U.S.A.; J. Stewart, Sydney, Australia; T. D. Broad, Bath; J. Howard, Woolwich; T. J. Poulton, Messing Kelvedon.

BOOKS: *Küss*, A Course of Lectures on Physiology; *Lanzillotti-Buonsanti e Gaetano Pini*, Dizionario dei Termini Antichi e Moderni d. Scienze Mediche e Veterinarie (Fase 8); *Peuch et Toussaint*, Précis de Chirurgie Vétérinaire; *Bouley*, Morve et Rage.

JOURNALS: *Recueil de Méd. Vétérinaire; Annales de Méd. Vétérinaire de Bruxelles; Edinburgh Medical Journal; Wochenschrift für Thierheilkunde und Viehzucht; Journal de Méd. Vétérinaire; Der Thierarzt; Révue Vétérinaire; Archives Vétérinaires; Animal World; Practitioner; Gazetta Medico-Veterinaria.*

NEWSPAPERS: *Herts and Essex Observer; Wilts and Gloucestershire Standard; Dumfriesshire and Galloway Herald and Register; North British Agriculturist; Agricultural Gazette; Farmer; Scotsman; Times; Daily Telegraph; Lancet; British Medical Journal; Field; Land and Water; Sydney Morning Herald; Canadian Illustrated News.*

---

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.